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Part IV

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Federal Railroad Administration

Track Safety Standards; Miscellaneous Proposed Revisions

DEPARTMENT OF TRANSPORTATION

Federal Railroad Administration

[49 CFR Part 213]

[Docket No. RST-3, Notice No. 1]

Track Safety Standards; Miscellaneous Proposed Revisions

AGENCY: Federal Railroad Administration (FRA), Department of Transportation (DOT).

ACTION: Notice of Proposed Rulemaking.

SUMMARY: This notice proposes to amend the FRA regulations containing Track Safety Standards. The proposed amendments would update, consolidate, and clarify existing rules and would eliminate certain rules no longer considered necessary for safety. This action is taken by FRA in an effort to improve its safety regulatory program.

DATES: (1)Written Comments: Written comments must be received before November 30, 1979. Comments received after that date will be considered so far as possible without incurring additional expense or delay.

(2) Public Hearing: A public hearing will be held at 10:00 a.m. on November 14, & 15, 1979. Any person who desires to make an oral statement at the hearing should notify the Docket Clerk before November 7, 1979.

ADDRESSES: (1) Written Comments: Written comments should identify the docket number and the notice number and should be submitted in triplicate to: Docket Clerk, Office of the Chief Counsel, Federal Railroad Administration, 400 Seventh Street, SW, Washington, D.C. 20590. Persons desiring to be notified that their written comments have been received by FRA shall submit a stamped, self-addressed post card with their comments. The Docket Clerk will indicate on the post card the date on which the comments were received and will return the card to the addressee. Written comments will be available for examination, both before and after the closing date for written comments, during regular business hours in Room 4406 of the Trans Point Building, 2100 Second Street, SW, Washington, D.C. 20590.

(2) Public Hearing: A public hearing will be held in room 2230 of the Nassif Building, 400 Seventh Street, SW, Washington, D.C. 20590. Persons desiring to make an oral statement at the hearing should notify the Docket Clerk by telephone (202–426–8836) or by writing to: Docket Clerk, Office of Chief Counsel, Federal Railroad Administration, 400 Seventh Street SW, Washington, D.C. 20590.

FOR FURTHER INFORMATION CONTACT:

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SUPPLEMENTARY INFORMATION:

I. Background

A. Regulatory Reform

On March 23, 1978, the President issued Executive Order 12044. In that Order, he directed all executive agencies to adopt procedures to improve existing and future regulations. As a matter of policy, the Order requires that regulations be as simple and clear as possible, achieve legislative goals effectively and efficiently, and not impose unnecessary burdens.

In response to the policies set forth in Executive Order 12044, FRA initiated a General Safety Inquiry for the purpose of evaluating and improving its safety regulatory program. This inquiry and the hearings related to the Track Safety Standards were announced in the May 8, September 25 and October 4, 1978 issues of the **Federal Register** (43 FR 19696, 43 FR 43339, and 43 FR 45905).

B. Hearings on Track

As part of the General Safety Inquiry, FRA conducted two days of public hearings on track and related structures, appliances and devices on November 15 and 16, 1978. These hearings were designed to obtain information from the public that would help FRA to determine whether any sections of its Track Safety Standards set forth in 49 CFR Part 213 should be expanded in scope, revised, or revoked.

The following discussion will focus on the matters receiving most emphasis at the hearing. Testimony was presented in response to the forty-nine issues set forth in the hearing notice (43 FR 43339). This testimony and the written comments filed in this inquiry have been fully considered. They will be available for examination by interested persons at tny time during regular working hours in Room 4406, Trans Point Building, 2100 Second Street, S.W., Washington, D.C. 20590.

Performance standards. The major issue raised during the hearing and in written comments submitted to FRA was the feasibility of adopting performance standards for track. The Association of American Railroads (AAR) and the individual railroads favored development of performance standards on the grounds that they would permit innovation and use of alternative approaches to track safety.

On the other hand, the National Association of Regulatory Utility Commissioners (NARUC) and the Railway Labor Executives Association (RLEA) indicated that adoption of performance standards would further complicate existing enforcement problems. The National Transportation Safety Board (NTSB) suggested a middle ground by recommending that the regulations combine design and performance standards in a manner which would facilitate implementation of new technology while permitting simplicity in enforcement.

Unfortunately, neither the hearing nor the written comments provided any workable examples of track regulations utilizing the performance standard approach. Moreover, even those parties who favored adoption of performance standards acknowledged that substantial additional research and cooperative effort are needed to make performance standards feasible.

Financial condition of the rail industry. Throughout the hearing, the subject of the fragile financial condition of the rail industry repeatedly surfaced. Both AAR and the individual railroads reminded FRA that heavy fines and unreasonable regulatory requirements resulted in a severe burden for many railroads.

Both DOT and FRA recognize the economic difficulties of the rail industry. The recent preliminary report published by DOT, "A Prospectus for Change in the Freight Railroad Industry", analyzes the problems currently facing the industry.

One consequence of those economic difficulties is that the rail industry has limited resources available to it. This makes it all the more critical that these resources be used in the most effective and efficient manner to eliminate safety hazards.

Maintenance and inspection standards. At the hearing, the AAR and a number of individual railroads asserted that many FRA track standards, such as those concerning vegetation (§ 213.37), ballast (§ 213.103 and § 213.105), tie-plates (§ 213.123), rail anchors (§ 213.125), track shims and planking (§ 213.129 and § 213.131), and switch heaters (§ 213.207), are, in effect, maintenance or "good practice" standards, rather than safety standards. Many witnesses insisted that these provisions were actually counter-

productive from the standpoint of safety since they diverted limited financial resources from other areas directly related to safety.

Crosstie defects. During the FRA track hearing, the AAR and individual railroads expressed dissatisfaction with the existing regulations concerning crossties and stated that specific enumeration of tie defects resulted in an arbitrary list of conditions that in many circumstances are no threat to safety whatsoever.

They contended that the adequacy of crossties from the standpoint of safety could not be realistically quantified and that crossties should merely be subject to a general requirement that they be capable of holding the rails to gage and of distributing loads from the rails to the ballast.

Knowledge. Discussing whether knowledge of defective track conditions should continue to be required for liability, one railroad commenter took the position that elimination of the knowledge requirement would be unfair since many railroads do not have access to the same sophisticated equipment used by FRA inspectors. NARUC also indicated that some knowledge requirement should be retained in the standards.

It should be noted that many railroad commenters favoring retention of the knowledge requirements, objected to provisions requiring immediate corrective action upon discovery of track defects; these commenters alleged that these remedial requirements discourage the use of rail detector cars and foster a philosophy of "ignorance is bliss". Taking this line of reasoning a step further, RLEA recommended that parties responsible for track conditions be liable regardless of whether or not they have knowledge of the specific defect. Strict liability would provide the railroads with a strong incentive to discover and correct defects, rather than relying upon a lack of knowledge defense. NTSB also suggested dropping the knowledge requirement so that any defect would be a violation.

Population density and hazardous materials. Nearly all commenters agreed that no additional regulatory requirements should be imposed on the basis of population density: a sparsely populated rural area should not be exposed to a greater risk of hazard by virtue of less stringent track safety standards than those for track in densely populated urban areas.

Similarly, most of the commenters did not appear to favor amendment of the Track Safety Standards to specifically address track over which hazardous materials are transported. Commenters addressing this issue noted the difficulty of distinguishing those lines over which hazardous materials are carried from those over which they are not; they asserted that all track, even Class 1, should be safe for transporting hazardous materials.

II. Future Actions Relating to Track Safety: Long- and Short-Term Research Efforts

The FRA research and development program has a series of projects currently underway in a number of key track safety areas. These projects are designed to generate engineering and technical data for use in identifying areas where the existing regulations are deficient and new safety standards or other regulatory modifications are necessary. The program covers a broad range of subjects that pertain to track safety.

Vehicle and track interaction. Since 1975, FRA has been examining vehicle response to various components of the track structure. Some of this research has provided the basis for the changes proposed in § 213.9 with regard to vehicle speed, rail weight, and classes of track.

A continuing study is being conducted utilizing computer simulation of vehicle interaction with track geometry. It is hoped that this will identify the outer bounds of track geometry deviations over which rail vehicles can safely operate. Also, accident-prone cars are being identified on the basis of performance histories (non-accident related component failures), vehicle tests and accident data. These cars will be subjected to thorough investigation. Completion of the preliminary analysis of the first car type is expected this year. The conclusions and data from both investigations will then be correlated and field tested. The result should be an identification of the most critical vehicle-track combinations.

Additional research is being devoted to rail stress and rail deflection analyses. These concern the relationship between train speeds and the resulting vehicle loads applied to the track structure. Both laboratory and field tests will be used to confirm the initial findings. Initial recommendations may be available within a year, but further refinements of the conclusions and additional investigation in this key area will continue.

Rail inspection and remedial actions. Recently, FRA began studying the correlation between rail flaw detector car findings and derailments. Early results have provided new information on the growth and potential for failure of certain types and sizes of rail flaws. These results are reflected in §213.113 and §213.237. The remedial actions required by §213.113 for less serious rail flaws would be made less stringent. The FRA believes that the current standards are unnecessarily restrictive and might discourage full utilization of available rail flaw detection equipment. However, §213.237 would be strengthened by requiring that all Class 3 track and all Class 2 track over which passenger trains operate be inspected for rail flaws. In addition, the frequency of rail inspections would be correlated to rail weight, rail age and traffic volume rather than based simply on a time interval. This research will continue through 1980 and will enhance FRA's ability to evaluate the effectiveness of its rail inspection, defect identification and remedial requirements.

Continuous welded rail track. Both conventional 39 feet length jointed rail and continuous welded rail (CWR) expand longitudinally (lengthwise) as the temperature of the rail increases. Moreover, the amount of this expansion increases proportionately as the length of the rail increases. Since CWR is laid in approximately ¼ mile lengths (1320 feet), the amount of expansion at any given temperature elevation in an unrestrained CWR would be almost 34 times that in a conventional 39 foot long rail. CWR is installed with rail anchors to forestall most of this expansion. As a result of the anchoring of the rail, the CWR is subjected to high compressive and tensile forces. If not restrained sufficiently, these forces will cause track instability such as rails pulling apart at low rail temperatures and rails buckling at high rail temperatures.

Recent research has established a theoretical model or description of the track buckling and pull-apart phenomena in CWR track. However, much additional work is necessary before means can be developed to measure the conditions that cause these phenomena and appropriate preventative measures can be devised.

Identification of defective crossties. At the present time, there is no rail industry consensus as to what constitutes a "defective", or unacceptably degraded timber crosstie for a specific service. To a large extent, this is due to an inability to objectively evaluate the functional capability of a crosstie by its in-track physical appearance. Evaluation of completely deteriorated crossties on the one hand, or new sound crossties on the other, is not a problem. The disagreement lies in the large gray area where descriptions of what is a defective tie frequently boil down to a subjective judgement that "I

know one when I see one". Thus far, efforts to establish a rational research approach that would permit more discriminating guidelines for decisions for individual ties have not been successful. A possible approach may be a performance-based standard associated with methods for estimating track strength.

Rail end mismatch and batter. An element of the FRA rail stress investigation, started in 1978 and still in progress, is considering the effect of wheel impact forces on the growth of rail end "batter". It is often caused by the impact of the wheels of equipment passing over rail joints where the ends of the rails are vertically or laterally mismatched. The research in this area is not yet complete.

Performance standards. In addition to the proposed updating of the existing Track Safety Standards and various short-term research projects, many of which were discussed above, FRA is investigating the feasibility of developing new safety regulations based on the "performance standards" concept. This is a long term project, which is not expected to be completed for many years.

As was demonstrated at the FRA track hearing, there is no agreement within the rail industry at the present time as to what "performance standards" are. Theoretically, "performance standards" are the other side of the "design or specification standards" coin.

In the area of track safety, "performance standards" would prescribe what the entire track system as well as each component of that system must be capable of doing and prescribe appropriate measures to determine that these requirements are met. (In contrast, "design or specifications standards" would specify how and with what materials the track system and its components are to be built, maintained and inspected.) More specifically, track performance standards would consist of *quantified* descriptions of: (1) The service environment in which the track system and each of its components must be capable of performing; (2) the functions that they must be capable of performing in that environment and for how long a period; and (3) the integrity or the strength and reliability of the entire system and each component.

The prescribed testing to verify that the performance standards are met would consist of a combination of routine production tests and other more extensive measures such as engineering analyses, for each design, manufacturing process and method of installation.

The process of establishing these new performance standards will be difficult and time-consuming. Extensive research and testing under laboratory conditions, on track test facilities, and on railroad property will be necessary to develop and verify any proposed performance standards. These standards would also need to be adapted to translate into existing designs, components, and equipment.

The eventual implementation of performance standards would benefit the rail industry and the public by allowing significantly greater flexibility to railroads in deciding how to meet safety requirements. Since a number of designs and materials may meet a specific safety performance standard, each railroad would have the option of selecting the one most appropriate for its situation.

III. Safety Performance Incentive

The railroad industry has in the last two decaes dramatically improved the design and construction of track and equipment. However, these changes have also resulted in increased length, axle load, and volume capacity of freight equipment. Similarly, the development of higher horsepower locomotives has resulted in heavier and longer trains. These longer and heavier trains require that crews have more knowledge of train handling procedures in order to control the dynamic forces within varying speed ranges, track conditions, and terrain.

In the last four years (1975–1978) the number of reported train accidents and the total number of casualties have increased at the annual rate of about 10 and 8 %, respectively. These increases have occurred in spite of new Federal safety regulations and substantial increases in the number of Federal and State enforcement personnel. The majority (62%) of the train accidents were reported to have been caused by either defective track or equipment. However, it must be recognized that accidents rarely occur due to a single defect. Accidents are usually due to the combination of defects or due to marginal track and equipment conditions accentuated by in-train dynamic forces or poor operating practices.

In addressing the issue of railroad safety, the FRA has promulgated regulations in a variety of areas. Track safety standards and freight car safety standards are examples of FRA regulation of parts of the total railroad environment. However, regulation of fragments of the total system is less effective than a total system approach would be.

Unfortunately, a total system approach has not proved feasible. This is true because of the complexity of the variables and because the FRA cannot effectively regulate every variable that affects train, equipment and track dynamic response, e.g., train length, loads, load distribution, speed, and terrain. However, the real issue is performance of train operations in a safe manner and not merely compliance with Federal regulations. The method a railroad utilizes to achieve safety should be irrelevant so long as its trains stay on the track and do not cause personal injury.

Thus, the FRA is interested in establishing comprehensive safety performance norms for individual railroads or portions of a railroad. In developing a yardstick for measuring safety performance, the FRA will consider the objective criteria of past experience and traffic of the railroad. Specifically, the FRA will consider:

1. Normalized accident/injury profile.
2. Use of safety monitoring devices (hot wheel detectors, hot bearing detectors, cracked wheel detectors, dragging equipment detectors, oversized load detectors, signal systems for broken rail detection, track geometry equipment, rail flaw equipment, track settlement detectors, communications systems).

Individual railroads or portions of a railroad that exceed the FRA established safety norm for a prescribed period of time would be eligible for exemption from various FRA safety requirements.

In establishing this safety performance level, FRA recognizes that each railroad has the responsibility to inspect and maintain track and equipment in accordance with its operating environment. One railroad may choose to manage its resources and operations in a more effective manner by employing monitoring devices. Another railroad may choose to ensure that the track system is not overtaxed by conducting its operations at lower speeds, operating shorter and lighter trains or adopting special train operating procedures. The safety performance level would also enable FRA to utilize its limited railroad safety resources in a more effective manner by concentrating on railroads that have an unacceptable safety performance record.

IV. Discussion of Proposal

A. Objectives of the Proposed Track Safety Standards

In October of 1971, the original FRA Track Safety Standards were introduced (36 FR 20336) in response to the

congressional mandate of the Federal Railroad Safety Act of 1970 (45 U.S.C. 421 *et seq.*). The original standards were based on the safety practices of the rail industry at that time, available track-related data, and public comments and testimony. The goal of these initial standards was to establish "minimum requirements for safety", rather than to include all "preferred or recommended practices from an economic and engineering standpoint". The standards were not intended as the last word on safe track conditions, but as an evolving set of safety requirements: ". . . the standards . . . will be continually reviewed and revised by FRA in light of technical innovations, the results of the FRA research and development program, and experience under these standards," 36 FR 20336.

In developing the amendment proposed in this notice, FRA reviewed research findings, technical innovations, available accident data, public comments and testimony, and the more than seven years experience the agency has had with the standards. The approach taken when the standards were introduced is still applicable to the proposed standards. Therefore, FRA seeks to set forth the minimum necessary requirements for safe track rather than a comprehensive list of all potentially hazardous conditions. The railroads, not FRA, will remain directly responsible for finding and correcting all unsafe track conditions. The proposal is not a major overhaul of the standards; instead, it is intended to refine or "fine tune" the existing requirements.

FRA has undertaken a complete review of the Track Safety Standards with three primary objectives: (1) All requirements that are burdensome and unessential for safe track are to be eliminated; (2) all requirements that cannot be justified or sufficiently clarified for enforcement purposes by existing data or research are to be eliminated until further information becomes available; and (3) knowledge gained from research, data collection, and experience is to be used to strengthen and clarify the remaining requirements. As each section of the proposal is discussed, the particular justification and objective will be set forth.

As part of its review effort, FRA has examined all available accident data for the years 1975 through 1978. This data is culled from accident reports submitted to FRA by the nation's railroads, and is supplemented by information generated by FRA accident investigations. Under 49 CFR Part 225, all railroads are required to file monthly Rail Equipment Accident/Incident Reports with FRA (Form FRA F 6180.54). A rail equipment accident/incident is classified as a collision, derailment, or any other event involving the operation of railroad on-track equipment that results in excess of a specified amount of damage to railroad equipment, signals, trackage, track structures and roadbed, regardless of whether any casualty resulted. The cumulative dollar amount of damage that must result before an accident need be reported is adjusted every two years to reflect changes in labor and material costs. For example, the reporting threshold for 1975 and 1976 was $1,750; in 1977 and 1978, it was $2,300; and it is now $2,900.

According to the published accident data for the years 1975 through 1978, there were 16,570 reported accidents caused by track defects. These accidents accounted for 42 percent of the total number of train accidents for the four year period. They resulted in 12 fatalities, 788 personal injuries, and a reported cost of approximately $368,540,000 is property damage.

The track-related accidents for this four year period can be divided into four major categories by principle cause: (1) Roadbed defects (830 accidents), (2) geometry defects (7,759 accidents), (3) rail and joint bar defects (4,588 accidents), and (4) frog, switch, and track appliance defects (3,243 accidents). The proposed changes address each of these accident categories. For example, the changes to $213.113 (Defective Rails) and § 213.237 (Inspection of Rail) concern rail defects; § 213.57 (Curves, Elevation and Speed Limitation) and § 213.109 (Crossties) involve geometry defects; and the changes to § 213.9 (Classes of Track) affect rail and geometry defect categories of accidents.

B. Section-by-Section Analysis

Application. To assist the reader in assessing this proposal, both the text of the proposed changes and the existing regulations are published side-by-side at the end of this notice.

The existing § 213.3 extends application of 49 CFR Part 213 (Track Safety Standards) to all standard gage track in the general system of transportation with the exception of trackage located inside an installation that is not part of the general system, and track that is used exclusively for rapid transit, commuter, or other short haul passenger service in a metropolitan or suburban area.

The proposed change would clarify application of the Track Safety Standards in several ways. First, the phrase "general railroad system of transportation" is not defined in the existing standards and has resulted in significant confusion and uncertainty. The purpose of the current provision was to exclude only trackage used *exclusively* by an intra-plant railroad; it was not intended to exclude trackage used by other railroads for the pick up or delivery of cars or for contract switching. The proposed rule would resolve this ambiguity by deleting from paragraph (a) the term "general railroad system of transportation" and providing instead that these standards apply to *all* standard gage track over which a common carrier by railroad operates, including trackage in non-railroad installations such as steel plants, chemical plants and refineries. The impact of this change should be slight since it is consistent with existing FRA enforcement practices and the affected trackage constitutes only about three percent (3%) of the total railroad system. Trackage used exclusively for industrial purposes would continue to be excluded.

Second, the current exclusion of track used exclusively for commuter or other short-haul passenger service in a metropolitan or suburban area would be deleted. Since issuance of the standards in 1971, FRA has encountered significant unsafe conditions on track used exclusively for local commuter operations that are conducted by major railroads. The absence of directly applicable regulations has hampered FRA's efforts to obtain prompt remedial action. Therefore, all track used by railroads for commuter service (less than one percent (1%) of the total railroad system) would be made subject to the Track Safety Standards.

The exclusion of rapid transit operations would be retained, since the Urban Mass Transportation Administration (UMTA) is now solely responsible for rapid transit safety (*see. Chicago Transit Authority* v. *Flohr*, 570 F. 2d 1305 (7th Cir., 1977)). However, the proposed rule would make it clear that FRA retains jurisdiction over the Port Authority Trans Hudson (PATH), because it operates in interstate commerce as a rail common carrier.

Third, the proposed change would eliminate the present paragraph (c), which specifies when various subparts of the initial standards went into effect. Since all subparts have been in effect for years, this provision is no longer necessary.

Finally, proposed paragraph (c) would provide that certain track may be excepted from the minimum requirements for Class 1 track. To be eligible for this exception, track cannot be operated over at speeds that exceed

10 mph, used to transport hazardous materials or passenger trains, nor elevated more than 10 feet above adjacent terrain. In addition, the track would have to be located more than 100 feet away from other active tracks, public streets and highways, occupied structures and other facilities and installations where persons are likely to be endangered by a derailment. To become excepted, eligible track would have to be designated as "excepted track" by a railroad. This would be accomplished by the railroad preparing a written record of the designation and filing a copy of it with the FRA Associate Administrator for Safety in Washington, D.C. and the FRA Regional Director for Safety for the region in which the track is located. Proposed paragraph (c) further provides that whenever track previously designated as "excepted track" by a railroad ceases to meet the prescribed conditions, that track shall immediately become subject to the Track Safety Standards. In addition, within 10 calendar days after this occurs, the railroad must so notify the FRA in writing. A railroad's utilization of this exception would not make the track involved subject to State regulation.

The purpose of this exception is to address two important realities that have plagued the administration of the current standards. First, there are many track segments, particularly on low density branch lines, that are used only for the transportation of non-hazardous cargo at low speeds. These segments are on comparatively level terrain and pass through areas where it is highly unlikely that a derailment would endanger persons along the railroad right of way. Moreover, the risk of injury to train crew members in a derailment in these circumstances is remote. Consequently, only property would be seriously endangered by derailments on excepted track segments.

During the four year period 1975–1978, a total of 16,750 track-related accidents were reported to FRA. These accidents resulted in 12 fatalities and 788 injuries. Although 74.6% (12,370) of these accidents occurred at speeds of 1–10 mph, they accounted for only 25% (3) of the track-related fatalities and less than 23.5% (185) of the track-related injuries during this period.

Examination was made of the circumstances surrounding the three fatalities reported as being track-related and occurring at speeds of 1–10 mph. The first fatality in a reportedly track-related accident occurred on the Soo Line Railroad at Ambrose, North Dakota, on January 13, 1976. The FRA investigation of this accident (FE–59–76) revealed that the fatality occurred during the rerailing of a car that had derailed several days earlier apparently due to a track condition. The car being rerailed suddenly toppled over onto a carman who was examining the underside of the car. The direct cause of the fatality was the failure of the carman to perform his duties in accordance with the railroad's safety rules.

The second fatality occurred on the Southern Railway at Knoxville, Tennessee, on March 27, 1976. In this accident (FRA File: FE–74–76), a track foremen was fatally injured when he was run over by a derailed car while repairing track in the John Sevier Yard at Mascot, Tennessee. The derailment was caused by a switch malfunction. The foreman was engaged in cutting a rail in a track adjacent to that on which the derailment occurred and apparently did not see or hear the approaching derailed car.

The third fatality occurred in a track-related derailment on the Chicago and Northwestern Railroad at Wheatland, IA on July 25, 1976 (FRA File: FE–100–76). This accident was investigated by the National Transportation Safety Board (Brief of Railroad No. 76–158). The fatality occurred when the lead locomotive of a freight train derailed apparently due to a track irregularity on a bridge and plunged into a river. The engineer of the train drowned.

Thus, only the third fatality was directly caused by a track-related derailment, although a track defect did contribute to the second fatality. However, neither of these fatalities occurred on track that would be excepted from the minimum requirements for Class 1 track under this proposal. One occurred on a busy yard track that handles hazardous materials and the other occurred on a bridge.

FRA realizes that no regulatory proposal can eliminate entirely the hazards inherent in railroad operations. The amount of private and public resources that can be devoted to improving railroad safety are limited. These limited resources should be expended so that they achieve maximum safety results. FRA believes these resources should be concentrated in the more hazardous areas where they can achieve maximum results.

The second important reality that has plagued the administration of the current standards is that many railroads (particularly those in the Midwest and the East) have substantially more rail lines than are needed to serve current markets. These railroads simply cannot afford to maintain all of their low density branch lines. FRA realizes that this proposal will be opposed by those who regard the track safety standards as a mechanism to be used to prevent what amounts to abandonment of lines due to track deterioration. However, FRA should not be expected to accomplish under the guise of safety that which the collective efforts of the Interstate Commerce Commission, the bankruptcy courts and interested groups have been unable to achieve under controlling law.

Under this proposal, railroads could choose between maintaining their low density track to at least Class 1 standards or acknowledging publicly that this track is being allowed to deteriorate below the level necessary to provide quality rail service. The proposed notification procedure would provide early identification of track that is being allowed to so deteriorate and provide time for shipper and other affected groups to adjust to this reality or take appropriate remedial action.

Responsibility. The current § 213.5 (Responsibility) creates civil penalty liability only where it is shown that the track owner, or other responsible party, "knows or has notice" that the track does not comply with the requirements of the Track Safety Standards. The proposal would establish absolute liability for non-compliance similar to that imposed by the Safety Appliance Acts and other older railroad safety statutes that have been authoritatively upheld by the courts since the early days of this century. The Federal Railroad Safety Act of 1970 also reads in terms of absolute liability since it does not require scienter (knowledge) before a railroad may be penalized for non-compliance with standards issued under that Act.

FRA believes that the safety considerations of the proposed standards are of a gravity equal to those of the older safety statutes. Railroads should be held to a strict duty to discover and correct unsafe track conditions. Retention of the knowledge requirements would perpetuate the current disincentive for railroads to make thorough track inspections, maintain complete and accurate records of track conditions, and promptly execute appropriate remedial measures before non-complying conditions are discovered by FRA or participating state inspectors.

The existing regulation confines responsibility for compliance with the Track Safety Standards to track owners and their assignees and sets forth the procedure for submission and approval of petitions for assignment of responsibility.

This approach has suffered from several disadvantages. First, ownership does not always equate to practical control. Second, ownership is a complex legal concept that may be unevenly understood by those who maintain, operate, or otherwise enjoy possessary interests in track. Third, State ownership of many light density lines as well as long-term leases, joint usage contracts, and similar agreements have complicated the administration and enforcement of the current regulations. Fourth, track owners and operating carriers have often neglected to file assignment agreements reflecting responsibility for track conditions.

Accordingly, FRA proposes to eliminate reference to ownership and assignment, and focus instead on track usage and control. The proposed rule would make a railroad responsible for all track over which it operates, as well as all track over which it authorizes another railroad to operate. This would mean that in some instances, more than one railroad may be responsible for track conditions.

This change would resolve several problems by permitting greater enforcement flexibility. FRA could take appropriate action against a railroad that fails to comply with speed limits or other movement restrictions required under the standards, even if the non-complying railroad has neither ownership nor maintenance responsibilities. Under the existing rule, FRA is limited to the track owner or assignee in determining responsibility for noncompliance with the safety standards. Similarly, the revised rule would address enforcement questions that arise when maintenance, operating, and control responsibilities are confusingly divided by private agreements. For the purposes of the standards, each railroad operating over the track, or authorizing other carriers to operate over the track, would be responsible for track conditions regardless of previous private arrangements. Correspondingly, a railroad could not disclaim compliance responsibility solely on the basis of prive agreements or past conduct.

This proposed change would have a negligible impact on the rail industry since railroads generally have ownership or maintenance responsibilities with respect to most of the trackage over which they operate.

The proposed rule would also eliminate the procedural requirements contained in existing § 213.5 (b) and (c) for submitting a petition for assignment of responsibility. This would reduce paperwork for both the Government and railroads.

Finally, it is proposed to include within § 213.5 the civil penalty reminder currently found under § 213.15 and the provision for exemptions currently found under § 213.17. Consolidation of these sections would facilitate reference to these three interrelated subjects: responsibility, penalties, and exemptions.

Designation of qualified persons to supervise certain renewals and inspect track. The existing § 213.7 addresses the qualifications for persons designated by railroads to supervise restorations and renewals of track under subsection (a) and the qualifications for track inspectors under subsection (b). An erroneous inference has been drawn from this section by some railroads that the person designated to supervise renewals must also act as a supervisor of persons designated to inspect for track defects. The proposed consolidation of the functions and qualifications of designated persons would make it clear that this is not so.

Both the existing and proposed sections require the track owner, or other party responsible under § 213.5, to maintain a written record of the basis for each designation. The existing rule is not sufficiently specific concerning the recording of the basis for each designation. As a result, there has been some confusion on the part of railroads as to what information is actually required. The additional language proposed in § 213.7(c)(2) would describe more precisely the information to be recorded.

Classes of track: Operating speed limits. Under the existing § 213.9(a), maximum permissible operating speeds for trains are determined by two criteria: (1) The class of track over which the train is operating and (2) the type of train, freight or passenger, being operated. Passenger trains are now permitted to operate at higher speeds than freight trains on all classes of track except Class 6 where the maximum allowable operating speed is 110 mph for both freight and passenger trains.

During the hearing and in written comments submitted to FRA, some witnesses and commenters urged that the regulations take into account the dynamic response of the vehicle to track structure and defects in determining maximum allowable operating speeds. These requests are prompted by the fact that dynamic forces generated by trains in starting, stopping, running and negotiating curves and turnouts are transmitted from the wheel to the rail. If these forces are not absorbed and restrained by the track structure, the track will fail. Considerable research is being conducted by FRA in order to understand more completely the dynamic interaction of wheel and rail. Available information on certain aspects of operating speeds has been applied in developing the proposed changes to § 213.9 (Classes of Track: Operating Speed Limits).

Research findings indicate that the relationship between the maximum load that a track is capable of supporting and the stress that train operations place on track is a critical factor in evaluating track safety. The existing § 213.9 prescribes maximum speeds for each class of track but does not take into account the ability of the track to safely withstand passing axle loads. FRA believes that this factor has a direct bearing on the 48% increase in broken rail accidents during the past four years.

FRA recently evaluated maximum stresses in the rail (peak rail stress) for various rail weights and types of track. A copy of the evaluation has been placed in Docket No. RST–3. Interested persons may examine the evaluation during regular business hours in Room 4406 of the Trans Point Building, 2100 Second Street, SW., Washington, D.C. 20590.

This evaluation of rail stresses utilizes a method for estimating dynamic loads (dynamic load magnification factor) developed by the American Railway Engineering Association (AREA). This method is used to take into account the increases in loads (dynamic effect) caused by the movement of the vehicle. Lateral loads are incorporated into the study by considering the lateral loads to be one-tenth (1/10) the vertical loads. This figure is based on the results of recent cooperative research efforts by FRA and the railroad industry that were conducted on railroad properties. The evaluation revealed that at certain speeds permitted under the existing table in § 213.9, the maximum (peak) rail stresses at the base of the rail sometimes exceed the endurance limit of rail steel. This was particularly evident when heavier vehicles operate over lighter weight rails. As operating stresses in the rail rise above this level, rail failure is more likely to occur.

Initial FRA working drafts of this proposed revision of § 213.9 took into consideration track class, rail weight and vehicle axle load in determining maximum permissible operating speeds. However this approach was abandoned by FRA when it became evident that there is insufficient technical data and research information available to justify at this time a regulatory change that includes an axle load factor. In addition, a cost analysis supplied to FRA by an independent consulting firm indicates that inclusion of the axle load portion of

the initial draft proposal would result in an extremely costly financial burden to the rail industry. A copy of the cost analysis prepared by the independent consulting firm can be found in Docket No. RST–3; it is available for examination by any interested person during regular business hours in Room 4406 of the Trans Point Building. Accordingly, consideration of axle loads in determining maximum permissible operating speeds is being postponed until further technical information provides sufficient safety justification for this step, or future investigation reveals significant cost reductions.

However, proposed § 213.9 would prescribe maximum permissible speeds that are correlated to the strength or weight of the rail in the track. Since dynamic forces generated by passage of both freight and passenger trains increase as train speed increases, with rail support conditions remaining constant, the stresses developed in the rail will likewise increase. Heavier rail is needed to sustain these higher forces.

Thus, FRA proposes to lower many of the present maximum permissible speeds over the various classes of track that have rail weighing less than 112 pounds per yard (112 lb./yd.) and to increase the maximum permissible speeds over track with rail that weighs more than 131 pounds per yard (131 lb./yd.). The maximum permissible speeds over track with rails that weigh between 112 and 131 lb./yd. would remain essentially the same.

In addition, the maximum allowable operating speed over each class of track would be made the same for passenger trains as it is for freight trains. Adoption of uniform speed limits for both passenger and freight trains will have the effect of reducing the maximum allowable operating speed for passenger trains on certain classes of track. Many locomotives in passenger service impose as severe loads on the track as any freight equipment. The increased probability of personal injuries in passenger train accidents warrants at least the same level of safety for passenger trains as for freight trains.

Stated more specifically, the proposed changes in maximum permissible speeds are as follows:

On Class 1 track, the maximum speed for freight trains would remain at 10 mph except that it would be increased from 10 to 15 mph over rail weighing more than 131 lb./yd.; the maximum speed for passenger trains would remain at 15 mph over rail weighing more than 131 lbs./yd. but would be reduced from 15 to 10 mph over lighter rail.

On Class 2 track, the maximum permissible speed for freight trains would remain 25 mph over rail that weighs 112 lb./yd. and increased from 25 to 30 mph over heavier rail; the maximum permissible speed for passenger trains would remain at 30 mph over rail that weighs 112 lb./yd. or more, but would be reduced from 30 to 25 mph over rail that weighs less than 112 lb./yd.

On Class 3 track, the maximum permissible speed for freight trains would be reduced from 40 to 30 mph over rail that weighs less than 112 lb./yd., remain at 40 mph over rail that weighs between 112 and 131 lb./yd., and be increased from 40 to 50 mph over track that weighs more than 131 lb./yd.; the maximum permissible speed for passenger trains would be decreased from 60 to 30 mph over rail that weighs less than 112 lb./yd., to 40 mph over rail that weighs between 121 and 131 lb./yd., and to 50 mph over heavier rail.

On Class 4 track, the maximum permissible speed for freight trains would be reduced from 60 to 50 mph over rail that weighs less than 112 lb./yd., remain at 60 mph over rail that weighs between 112 and 131 lb./yd., and be increased from 60 to 80 mph over heavier rail; the maximum speed for passenger trains would be reduced from 80 to 50 mph over rail that weighs less than 112 lb./yd., and to 60 mph over rail that weighs between 112 and 131 lb./yd., and remain at 80 mph over heavier rail.

On Class 5 track, the maximum permissible speed for freight trains would be reduced from 80 to 70 mph over rail that weighs less than 112 lb./yd., remain at 80 mph over rail that weighs between 112 and 131 lb./yd., and be increased from 80 to 110 mph over heavier rail; the maximum permissible speed for passenger trains would be reduced from 90 to 70 mph over rail that weighs less than 112 lb./yd., and from 90 to 80 mph over rail that weighs between 112 and 131 lb./yd., and increased from 90 to 110 mph over heavier rail.

On Class 6 track, the maximum permissible speed for both freight and passenger trains would be reduced from 110 to 90 mph over rail that weighs less than 112 lb./yd., remain at 110 mph over rail that weighs between 112 and 131 lb./yd., and be increased from 110 to 125 mph over heavier rail.

A detailed explanation of the technical basis for the proposed changes in maximum permissible speeds is contained in a document entitled "FRA Evaluation of Peak Stresses for Various Weights and Track Constructions" prepared by D. P. McConnell, Transportation Systems Center, Cambridge, Massachusetts. A copy of this document has been placed in Docket No. RST–3 and may be examined by interested persons during regular business hours in Room 4406 of the Trans Point Building, 2100 Second Street, SW., Washington, D.C. 20590.

Restoration or renewal of track under traffic condition. Only a minor modification is proposed in § 213.11. This section provides that if track that does not comply with these standards continues to handle traffic while it is being restored or renewed, it must be under the continuous supervision of a person designated to perform this function. Because of past misunderstanding by some railroads as to what constitutes "continuous supervision", this term would be changed to "continuous visual supervision". The purpose of this change is to express more clearly the original intent of this section that a qualified person must be present and continuously observe and supervise each train movement over track that is being restored or renewed and does not comply fully with the requirements of the Track Safety Standards.

Civil penalties and exemptions. It is proposed that § 213.15 (Civil Penalty) and § 213.17 (Exemptions) be deleted. The civil penalty and exemption provisions would be included in § 213.5 (Responsibility).

Alinement. Existing § 213.55 provides that track alinement may not "deviate from uniformity" more than the amounts specified in a table contained in that section. The term "deviations from uniformity" has proved to be difficult to apply because these deviations are often extremely difficult to measure with precision and because the concept of uniformity is imprecise. This difficulty becomes particularly evident when track remains out of alinement to widely varying degrees for a considerable distance. More important from the standpoint of safety, the term "deviations from uniformity" fails to encompass all abrupt changes in alinement that may be unsafe. This is true because a section of track could vary from the maximum limit of permissible deviation from uniformity in one direction to the maximum limit of permissible deviation in the other direction. This currently permissible variation in alinement can generate sufficient dynamic lateral forces to cause derailments. FRA proposes to shift the focal point of § 213.55 from "deviations from uniformity" to "changes in alinement". The term "changes in alinement" more accurately describes the geometrical irregularities on track that could cause derailments.

In addition to minor language changes for the purpose of clarification, FRA proposes to make a number of adjustments to the table in this section. The maximum permissible change in alinement on Class 1 track would be increased from 5 inches to 6 inches, and on Class 4 track, it would be reduced from 1½ inches to 1¼ inches. The intent of these changes is to make the requirements for alinement of Class 1 and 4 track more consistent with those currently prescribed for other classes on track.

Curves; elevation and speed limitations. Under current § 213.57(a),

the outside rail in curved track may not be lower than the inside rail. FRA proposes to delete this provision because it is adequately addressed in proposed § 213.57. Application of the formula in paragraph (b) inherently sets a minimum elevation for any given curve and speed.

In addition, under the proposal the maximum allowable elevation of the outside rail above the inside rail would be 6½ inches. Current § 213.57(a) provides that the maximum allowable elevation of the outside rail is 6 inches. However, this maximum may be increased or decreased by the allowable deviations set out in current § 213.63. The allowable deviation is ½ inch for Class 6 track and increases incrementally to 3 inches for Class 1 track. Thus, the actual maximum permissible elevation of the outside rail is between 6½ inches (Class 6) and 9 inches (Class 1). Therefore, by eliminating the cross reference to the permissible deviations provided in § 213.63, proposed § 213.57(a) would reduce the maximum permissible elevation of the outside rail for track Classes 1–5.

Experience indicates that the possibility of derailment increases as the amount of elevation exceeds 6½ inches. Since the elevation on almost all curved track has already been reduced to 6½ inches or less, this change should have little impact.

The proposed changes to § 213.57 (b) are clarifying and substantive in nature. The existing requirement for determining the maximum allowable speed on curves would be changed by the addition of language to make it clear that the degree of curvature must be based on actual field measurements rather than the original design.

The substantive change is a proposed addition of a separate and more restrictive formula for determining the maximum allowable speeds on curved track for vehicles that have high centers of gravity (more than 97 inches above the top of the rail) or have trucks with more than 2 axles. FRA research indicates that vehicles with these features subject the track structure to much higher levels of dynamic stress than other vehicles operating at the same speed. The proposed new formula, which reduces the 3 inch unbalance factor in the current equation to 1½ inches, will result in appropriate reductions in the current maximum speeds in curved track for vehicles that have centers of gravity that exceed 97 inches or have trucks with more than 2 axles. The new equation will result in a reduction in the maximum permissible speed of approximately 10% to 30% depending on the elevation of the outer rail. In most cases, the reduction will be less than 5 miles per hour.

Unbalance is determined by subtracting the actual elevation of the outside rail from the elevation that would provide equal forces on both rails when a vehicle passes though the curve at a given speed. Thus, if the outside rail is 2 inches higher than the inside rail but the total amount of elevation necessary to result in equal forces on both rails is 5 inches, the result would be 3 inch unbalance.

As speed is increased, the amount of unbalance increases causing the forces generated by a vehicle passing through the curve to fall increasingly to the outside rail. This shifting of the force to the outside rail also increases in direct proportion to the height of the center of gravity of the vehicle. As unbalance increases, the magnitude of the lateral force begins to approach that of the vertical force. Therefore, the greater the shift of force to the outside rail, the greater the possibility of an undesirably high lateral/vertical (L/V) force ratio. FRA believes that many derailments attributed to track shift, rail spreading, rail turnover, wheel climbing and wheel lifting may actually have been caused by high L/V force ratios.

The performance characteristics or cars with high centers of gravity have long been the subject of concern. AAR Interchange Number 89 provides that loaded cars with a center of gravity of more than 98 inches are not acceptable in interchange. Nevertheless individual railroads may and often do agree with one another to accept these cars in interchange.

The Track-Train Dynamics Report (copyright 1973), prepared under a government-industry research program involving the AAR, the Railway Progress Institute (RPI) and the FRA, recommends that the maximum speed in curves of cars with a center of gravity of more than 98 inches should not exceed that which would result in a 2 inch unbalance. The FRA proposal is somewhat more restrictive than this recommendation. It would limit the amount of unbalance in high center of gravity to 1½ inches, rather than 2 inches. The resulting reduction in the maximum speeds in curves of high center of gravity vehicles would generally be less than 5 miles per hour. FRA believes that the additional margin of safety more than compensates for this minor speed reduction. FRA also chose the 97 inch figure rather than the 98 inch figure to provide an additional margin of safety. The proposed 97 inch figure would also prevent confusion and disputes. Some vehicles now in service that are identified as having 98 inch centers of gravity actually have centers of gravity that are somewhat lower.

With respect to 3 axle trucks, FRA recently sponsored tests of the Amtrak SDP–40F locomotive conducted on Chessie System track. A copy of the Executive Brief on these tests, which were a joint effort between FRA and the rail industry, has been placed in Docket No. RST–3. Interested persons may examine this document during regular business hours in Room 4406 of the Trans Point Building. As a result of these Chessie System tests, it was concluded that trains powered by vehicles with two 3-axle trucks (6 axles) can be operated at approximately 1.5 inches unbalance on typical Class 3 track. Moreover, the proposed distinction between vehicles of less than 4 axles and those of more than 4 axles is not new. The Swiss government has imposed a similar restriction for quite some time with good results. Finally, it should be noted that in the event a railroad could demonstrate that a particular vehicle of more than 4 axles has the dynamic load equivalent of a 4 axle vehicle, the railroad could petition for a waiver of exemption with regard to that particular vehicle under FRA regulations, 49 CFR Part 211. If a waiver of exemption is granted, the railroad would be permitted to operate the 6 (or more) axle vehicle under conditions appropriate for that particular vehicle.

In response to comments received, FRA has given consideration to increasing the amount of unbalance used in determining the maximum allowable operating speed for passenger trains on curved track. Experience has shown that passenger cars will ride comfortably around a curve at a speed determined by an unbalance of greater than 3 inches. However, this does not take into consideration the fact that essentially the same motive power is used in passenger and freight service. Research is underway to establish whether under certain conditions a greater unbalance may be permitted in calculating maximum allowable operating speeds without compromising safety. However, until there is justification to safely increase the unbalance, FRA will continue to use the 3 inch unbalance formula for all 4 axle vehicles.

Testimony received during the FRA public hearing further substantiates the use of the 3 inch unbalance formula for passenger trains. In response to specific questioning at the hearing on the issue of unbalance for passenger trains, an Amtrak representative agreed that he would not run a train over existing track

at a speed that would increase the unbalance without prior testing the specific vehicle involved. After petitioning FRA under Part 211, higher speeds may be permitted where special equipment is used and the test results indicate that no adverse safety impact results from the higher unbalance speeds.

Elevation of curved track; runoff. It is proposed to delete § 213.59 concerning curved track. Safety considerations dealing with elevation of curved track and runoff are provided for in § 213.57 (Curves; Elevation and Speed Limitation) and § 213.63 (Track Surface). This deletion is expected to have very little, if any, impact on the industry since FRA inspectors found no defects and filed no violations under this section during the period from 1975 through 1977.

Curve data for classes 4 through 6 track. Under current § 213.61, a railroad is required to maintain records on curve data for track Clases 4 through 6. It is proposed to delete § 213.61 because it is primarily a record-keeping requirement that has no direct bearing on track safety. Moreover, between 1975 and 1977, FRA inspectors noted only 13 deviations from this section—less than 5 defects per year. This deletion would reduce paperwork and related costs for the railroads.

Track surface. The changes proposed in § 213.63 would modify the permissible track surface deviations for Classes 1, 4 and 6 so that the rate of change of the deviations between each class would be more uniform. Accordingly, the maximum permissible deviation from uniform profile would be increased from 3 inches to 3½ inches on Class 1 track, decreased from 2 inches to 1⅝ inches on Class 4 track and increased from ½ inch to ⅝ inch on Class 6 track. In addition, the maximum permissible deviation in elevation between the two rails (cross level) on tangent (straight) track would be increased from ½ inch to ⅝ inch.

The proposal would also simplify and clarify the present regulations by eliminating repetitive and unnecessary requirements. First, the present provision which places limits on the amount of rise or fall in elevation in any 31 feet of rail (runoff), would be deleted because runoff is addressed in the proposed limits on deviation from uniform profile. Second, the present provisions that limit deviations from designated (planned) elevation on spirals (track segments that serve as a transition from straight to curved track) and on curves between spirals, would be deleted because these limits are not necessary for track safety. The major safety considerations in this area are: (1) The actual difference in track elevation measured as prescribed in the last two provisions of the proposed chart; and (2) speed limitations placed on the track by the formula in § 213.57

Ballast and disturbed track. It is proposed to delete § 213.105 because its provisions concerning the condition of ballast in disturbed track are not sufficiently specific to provide meaningful guidance to railroad personnel and are virtually unenforceable. In the three year period from 1975 through 1977, FRA filed only ond defect under this section. Research has not established specific, measurable guidelines for determining when "ballast is sufficiently compacted" in disturbed track. This section may be re-established in the future as a result of further research and additional reliable data.

Crossties. Crossties are a crucial part of track safety; they are a key factor in maintaining proper track geometry thresholds and avoiding rail failures. Geometry defects and rail defects are two of the broad cause categories for track accidents. They account for 74% of the track accidents that occurred in 1977. For this reason, a significant part of FRA's enforcement effort concerns crosstie requirements. During the three year period from 1975 through 1977, FRA inspectors reported 61,687 defects and 2086 violations under this section.

During the track hearing, the issue was raised as to the difficulty of identifying defective or unsafe crossties. Both written comments and testimony indicated that under the existing rule a tie may be "defective" and still be safe to operate over. Unfortunately, to spell out all possible individual conditions as well as all possible combinations of conditions that make a tie unsafe would result in such a complex and lengthy regulation that it would be unmanageable. Identification of defective crossties has always been to some extent a matter of judgment. The rail industry has never developed a universally agreed upon definition of what constitutes a "defective" crosstie.

Another related issue raised at the hearing and in written comments was that the FRA should not prescribe those conditions that render a crosstie "defective" but should instead merely require that track be in proper alinement, gage and surface. FRA does not believe such a requirement would be sufficient to assure safety. Crossties play a crucial safety role. Without adequate crosstie support, track that is in proper alinement, gage and surface while not under load will nevertheless be unable to withstand the dynamic forces generated by passing equipment. As a result, a derailment is likely to occur.

Until a simple, enforceable definition of a defective crosstie emerges, FRA cannot justify a major departure from the existing standard. With only minor revisions, the proposed role identifies specific conditions that make a crosstie defective. It also contains a general prohibition against the use of a crosstie that "fails to effectively support the vertical, lateral, and/or longitudinal loads imposed on it".

Changes are proposed to the table in § 213.109(c). The current table does not distinguish between curved and tangent (straight) track; it merely prescribes a uniform maximum permissible distance between nondefective ties in each class of track. FRA believes that increased tie support is needed to assure track stability in Classes 1, 2 and 3 track of 4 or more degrees curvature. The level of centriugal force applied to curved track by passing equipment increases proportionately as the degree of track curvature increases. Thus, the force level in a 4 degree curve is twice that in a 2 degree curve. Moreover, the introduction of heavier and high center of gravity equipment is imposing greater lateral dynamic forces on the track structure in curves and these forces are further magnified by any track perturbations (irregularities) that are present. Accordingly, the proposed table would shorten the maximum permissible distance between nondefective ties in Class 1 track from 100 to 80 inches and in Classes 2 and 3 track from 70 to 60 inches. During 1977 and 1978, approximately 80% of all rail accidents caused by track deficiencies occurred on these classes of track.

This change also conforms with another of the recommendations based on the FRA-Chessie tests discussed earlier in this notice. The study advised that priority maintenance be directed at lateral track strengthening to provide greater rail fastening capacity in curves. This includes strengthening the track structure with additional nondefective crossties.

It is proposed that the provision of the existing table requiring a minimum number of nondefective crossties per 39 feet of track be deleted as surplusage. The proposed requirements prescribing maximum distance between nondefective ties will provide sufficient support for the track structure.

The proposal would clarify § 213.109(d) concerning the positioning and placement of nondefective crossties under rail joints. In contrast to the present requirement that merely prescribes the number of ties and their relative position with respect to the

joint, proposed § 213.109 would also require that these ties be within a prescribed distance of the joint. This change would not increase the number of ties that would be required.

Both commenters and hearing witnesses mentioned the fact that under the current § 213.109(b), (c) and (d), references to "timber" limit application of the requirements to timber crossties. The proposal would delete these references so that this section will apply to crossties made of any material.

Finally, it is proposed to delete § 213.109(e), which prohibits the use of interlaced crossties in place of switch ties (except in cases of emergency or temporary installation) because FRA has concluded that this prohibition is not necessary from the standpoint of safety. Interlaced crossties are separate standard length crossties that support only one track at switch locations. In contrast, switchties are of sufficient length to support more than one track at switch locations. Because switchties facilitate track maintenance, they are generally preferred over interlaced ties. However, if interlaced crossties meet the other requirements of proposed § 213.109, the track geometry is within the parameters prescribed in this part, and the other requirements of this part are met, FRA believes that track supported by interlaced ties will also safely handle traffic.

Defective rails. The proposal would make a number of changes in the chart in § 213.113. The chart lists various remedial actions to be taken if defective rails are not replaced. The prescribed remedial actions vary according to the size of the defect.

No changes are proposed with respect to rails with any of the following defects: transverse fissure, compound fissure, detail fracture, engine burn fracture, defective weld, ordinary break, and damaged rail.

Changes are proposed with respect to rails with the following defects: horizontal split head, vertical split head, split web, piped rail, head web separation, bolt hole crack, and broken base. These changes are described below.

Rails with a horizontal or vertical split head that is more than 4 inches long are now subject to a 10 mph speed restriction (Note B), and if any metal has broken out of the railhead, each operation over the rail must be conducted under the visual supervision of a person qualified to supervise restoration and renewal of track under traffic conditions (Note A).

The proposal provides that rails with a horizontal or vertical split head that is between 4 and 6 inches long would continue to be subject to a 10 mph speed restriction (Note B) but they would also have to be inspected after 30 days (Note G), and if the split head is more than 6 inches long, each operation over the rail would have to be conducted under the visual supervision of a qualified person (Note A).

Rails with a split web or piped rail defect that is not more than ½ inch long are now subject to a 50 mph speed restriction (Note H) and must be inspected after 90 days (Note F); if the defect is between ½ inch and 3 inches long, the rails are subject to a 30 mph speed restriction (Note I) and must be inspected after 30 days (Note G); if the defect is more than 3 inches long, they are subject to a 10 mph speed restriction (Note B); and if any metal has broken out of the railhead, each operation over the defective rails must be visually supervised by a person qualified to supervise restoration and renewal of track under traffic conditions (Note A).

The proposal provides that rails with a split web or piped rail defect that is not more than 2 inches long would be subject to a 50 mph speed restriction (Note H) and would have to be inspected after 90 days (Note F); if the defect is between 2 and 4 inches long, the rails would be subject to a 30 mph speed restriction (Note I) and would have to be inspected after 30 days (Note G); if the defect is between 4 and 6 inches long, the rails would be subject to a 10 mph speed restriction (Note B) and have to be inspected after 30 days (Note G); and if the defect is more than 6 inches long, each operation over the defective rails would have to be conducted under the visual supervision of a qualified person (Note A).

Rails with a head and web separation that is not more than ½ inch long are now subject to a 50 mph speed restriction (Note H) and must be inspected after 90 days (Note F); if the separation is between ½ inch and 3 inches long, the rails are subject to 30 mph speed restriction (Note I) and must be inspected after 30 days (Note G); if the separation is more than 3 inches long, the rails are subject to a 10 mph speed restriction (Note B); and if any metal has broken out of the railhead, each operation over the defective rails must be visually supervised by a person qualified to supervise restoration and renewal of track under traffic conditions (Note A).

The proposal provides that rails with a head and web separation that is not more than 1½ inches long would be subject to a 50 mph speed restriction (Note H) and would have to be inspected after 90 days (Note F); if the separation is between 1½ and 3 inches long, the rails would be subject to a 30 mph speed restriction (Note I) and would have to be inspected after 30 days (Note G); and if the separation is more than 3 inches long, each operation over the defective rails would have to be conducted under the visual supervision of a qualified person (Note A).

Rails with a bolt hole crack that is not more than ½ inch long are now subject to a 50 mph speed restriction (Note H) and must be inspected after 90 days (Note F); if the crack is between ½ inch and 1½ inches long, the rails are subject to a 30 mph speed restriction (Note I) and must be inspected after 30 days (Note G); if the crack is more than 1½ inches long, the rails are subject to a 10 mph speed restriction (Note B); and if any metal has broken out of the railhead, each operation over the defective rails must be visually supervised by a person qualified to supervise restoration and renewal of track under traffic conditions (Note A).

The proposal provides that rails with a bolt hole crack that is not more than 1½ inches long would be subject to a 50 mph speed limitation (Note H) and would have to be inspected after 90 days (Note F); if the crack is between 1½ and 3 inches long, the rails would be subject to a 30 mph speed restriction (Note I) and would have to be inspected after 30 days (Note G); and if the crack is more than 3 inches long, each operation over the defective rails would have to be conducted under the visual supervision of a qualified person (Note A).

Rails with a broken base that is more than 6 inches long are now required to be replaced. The proposal would allow them to remain in service but each operation over the defective rails would have to be visually supervised by a person qualified to supervise restoration and renewal of track under traffic conditions (Note A).

These proposed changes are based on results from a recent analysis of rail flaw behavior conducted by FRA that revealed that the size of some defects can be increased over existing prescribed tolerances without significantly affecting the safety of railroad operations. A copy of these results has been placed in Docket No. RST–73–1. This change is consonant with the proposed revisions of § 213.237 (Inspection of Rail), which would increase the number of rail inspections based on rail weight, rail age, and annual tonnage over the track. The increased inspections will require each railroad to monitor more closely the development of these defects and take appropriate action before they develop to the point of failure.

The proposal would also delete § 213.113(b) and (c)(12)–(14) which concern minor rail surface imperfections such as rails with shelly spots, head checks, engine burns and mill defects and rails that are flaking, slivered, corrugated and corroded. While these conditions may eventually lead to defects similar to those in § 213.113(a), they do not in themselves represent serious safety hazards. The rail inspections required under § 213.237 are designed to detect those defects before they develop to the point of rupture.

Rail end mismatch and batter. The existing § 213.115 prescribes tolerances for mismatch of rail at joints on the tread and gage side of the rail ends and § 213.117 prescribes limits on the amount of "batter" (damage or disfiguration) that rail ends may sustain. When the ends of adjoining rails are vertically or laterally mismatched, they may be damaged by the battering and pounding they receive from the wheels of passing equipment. The proposed changes would delete the portion of § 213.115 prescribing thresholds for mismatch on the tread of rail ends and would delete § 213.117 in its entirety because they are maintenance rather than safety standards. FRA recognizes that if tread mismatch and rail end batter are left uncorrected, they may eventually lead to broken and/or cracked angle bars, defective rails, and deteriorated surface conditions. However, each of these hazardous conditions is addressed elsewhere in the standards. FRA plans to conduct further research on the effect of rail tread mismatch and rail end batter on rail life and wheel damage. This research may lead to establishing safety requirements in this area.

Continuous welded rail. Current § 213.119 provides that continuous welded rail must be installed at or adjusted for a rail temperature range that should not result in forces that will produce lateral displacement of the track or the pulling apart of rail ends or welds. It also provides that after installation, continuous welded rail should not be disturbed at rail temperatures higher than its installation or adjusted temperature. FRA proposes to delete this section in its entirety because it is so general in nature that it provides little guidance to railroads and is difficult to enforce. From 1975 through 1978, a total of only 14 defects were reported by FRA inspectors and one violation was filed under this section. While the importance of controlling thermal stresses within continuous welded rail has long been recognized, research has not advanced to the point where specific safety requirements can be established. Continuing research may produce reliable data in this area in the future.

Rail joints. Section 213.121 sets forth various requirements with respect to rail joints. The proposal would clarify § 213.121(d) and (e) by specifying that each rail *end,* not simply each rail, must be bolted as required. As discussed earlier, the number of derailments due to broken rail has increased, particularly within the lower track classes. Torch cut or burned bolt holes establish stress points in the web area that often lead to broken rails. For these reasons, FRA proposes to clarify the current prohibition § 213.12(g) against the use of torch cut or burned bolt holes in rails or joint bars in Classes 3–6 track and to extend this prohibition to Class 2 track.

Tie plates. FRA proposes to delete § 213.123 which requires use of tie plates in Classes 3 through 6 track. While use of tie plates is a good maintenance practice, it is not necessary for safe operations if railroads comply with the other sections in this part. There is no evidence that the absence of tie plates has ever caused a derailment or other accident.

Rail anchoring. FRA proposes to delete § 213.125 concerning use of rail anchors. While rail anchors are an important aspect of lateral track stability, the existing rule is virtually unenforceable because of the vagueness of the term "effectively controlled". It is recognized that if longitudinal rail movement is permitted to exist, conditions may develop that lead to either track buckling or pull-aparts, both of which can and do cause train accidents. Therefore, FRA is conducting research in this area in order to more thoroughly understand track structure. This section may be reestablished when research results identify specific, measurable requirements for safe operations.

Rail fastenings. A number of changes are being proposed in recognition of the increased use of rail fastenings other than spikes. The proposed rule would change the caption of § 213.127 from "Track Spikes" to "Rail Fastenings". Similarly, the word "cut" has been deleted from § 213.127(a) to permit application to any type of spike, including screw or drive spikes.

A new § 213.127(b) would be added by the proposal to specifically address rail fastenings other than spikes. These requirements are substantially the same as those that apply to spikes.

Track shims and planks used in shimming. FRA Proposes to delete § § 213.129 and 213.131 that address the use of track shims and planks, which are pieces of wood that are placed between the base of the rail and the top of a tie. They are particularly useful to restore track to the required geometric threshold after it has been displaced by frost heaves and ground thaws. As long as the requirements of the other sections of this part, such as § 213.63, are met, the maintenance method used to achieve this result is immaterial from the standpoint of safety. Furthermore, there is no evidence that shims or planks have ever been the sole cause of a derailment or other train accident.

Switches. The existing requirements of § 213.135(b) (Switches) consider only lateral and vertical rail movement when addressing the fit of the switch point and stock rail. However, it has been recognized for some time that longitudinal rail movement in and around switches is also hazardous. Logitudinal movement of either the switch points or stock rail will result in conditions that adversely affect the ability of the wheels to make the safe transition through the switch area. Excessive rail movement in and around switches was directly related to 216 derailments in 1978.

A new § 213.135(i) would control longitudinal movement in and around switches by providing that a switch point may not have an unprotected vertical or inclined surface that is $^{15}/_{16}$ inch or wider, measured ¾ of an inch below the top of the stock rail. The parameters of the proposed rule are taken from the Penn Central MW–1 (Manual of Standards of Practice for Construction and Maintenance of Track) which is substantially the same as its predecessor used on the Pennsylvania Railroad (CE 78). The Penn Central MW–1, and its counterpart currently in use by Conrail, require that immediate remedial action be taken upon discovery of a switch point that exceeds these parameters. This practice has proven to be a good safety measure of over the years for these railroads. This proposal is also similar to the condemning limits recommended by the Engineering Division of the AAR in 1970. Although these recommendations were not adopted by FRA in the original draft of the Track Safety Standards, subsequent experience has demonstrated a need to establish condemning limits for switch points. Accident data reveals that worn or broken switch points were the cause of 1625 train accidents during the four year period of 1975 through 1978. This is 9.8% of the total number of track-related accidents of that period.

Frogs. The current § 213.137 prescribes general requirements for frogs. The proposed § 213.137 would

consolidate the meaningful requirements from § 213.141, which governs self-guarded frogs, with these general requirements.

Track appliances and track-related devices. It is proposed that Subpart E, Track Appliances and Track-Related Devices, be deleted. These appliances and devices (derails and switch heaters) do not have a significant impact on track safety. A review of the accident history for the four years from 1975 through 1978 revealed a total of only 12 accidents involving track appliances and devices, all of which occurred at speeds of 10 mph or less, and none of which resulted in a death or personal injury.

Turnout and track crossing inspections. Current § 213.235 provides that each switch and track crossing must be inspected on foot each month. However, on track that is not used at least once a month, they need only be so inspected before the track is used. The proposal would clarify what must be inspected and by whom by substituting the word "turnout" for "switch" and specifying that these inspections are to be made be a qualified person designated under § 213.7(a).

Inspection of rail. The number of train accidents caused by broken rails has continued to increase during recent years. In 1975, 660 accidents were reported by carriers as caused by broken rails. In 1977, the number of accidents increased by about 30% to 855 and in 1978 the increase was about 13% to 968. These increases occurred primarily in the lower classes of track and indicate a need to strengthen the rail inspection requirements in § 213.237. In 1978, the amount of damage reported for track-related accidents caused by rail and joint bar defects constituted about 37% of the total damage caused by track-related accidents that year. Further analysis of dollar amounts of damage from track accidents reveals that accidents occurring on Class 3 track accounted for a higher dollar amount of damage than any other single class.

Current § 213.237(a) requires that all Classes 4 through 6 track and all Class 3 track over which passenger trains operate, be inspected annually for internal rail defects. The proposed § 213.237(a) would require that all track in Classes 3 through 6, as well as all Class 2 over which passenger trains operate, be inspected for internal defects at varied intervals. Depending upon the weight and age of the rail as well as the amount of traffic it carries, rail would be required to be inspected from one to four times each year.

Data from rail research clearly shows that as tonnage accumulates, rail becomes increasingly defect-prone. In older, light-weight rail that carries heavy traffic, the likelihood of rail defects growing from below detection level to rupture within the present required inspection intervals is especially high. Accordingly, under the proposed rule, the intervals between rail inspections would be based upon rail age, weight, and tons of traffic.

At the present time, if a new rail is inspected prior to installation or within the first 6 months after installation, the next inspection need not be made until 3 years after the initial inspection. FRA is proposing to require inspection of new "A" rails prior to their installation in Classes 3 through 6 track and Class 2 track over which passenger trains operate. All other new rail would not have to be inspected until 3 years after installation.

Mill defects in rails are the primary cause of service failures in new rails. These defects consist of deformations, cavities, seams, or foreign materials found in the head, web or base of a rail, that form when the ingot is poured. Mill defects may also occur when metal that splashes on the side of an ingot mold, cools and oxidizes to some extent before fusing with the liquid metal. The vast majority of these mill defects appear in the top rail rolled from each ingot. This rail is lettered "A". In order to reduce the likelihood that these defects will grow to rupture, the proposal would require inspection of the defect-prone "A" rails before installation, while permitting other rails to be installed without prior inspection.

Inspection records. Section 213.241 requires each railroad to prepare and maintain records of certain required inspections. In order to improve the quality and usefulness of these reports, a number of minor changes are proposed.

The existing § 213.241(b) describes the information the inspection report is required to contain. The proposal would clarify this requirement by listing separately and describing in more detail the items of information to be reported; it does not impose any additional reporting requirement on railroads. These changes will provide reporting uniformity and reduce confusion.

The proposal would also highlight the railroad inspector's responsibility under § 213.7 to prescribe remedial action upon discovery of track defects.

C. Economic Impact

FRA has determined that this notice does not contain a significant regulatory proposal. Therefore, a regulatory analysis under Executive Order 12044 is not required (E. O. 12044, 43 FR 12661, March 24, 1978).

However, FRA has prepared a Regulatory Evaluation of the changes proposed in this notice in accordance with the DOT's policies for evaluation of regulatory impacts (Regulatory Policies and Procedures, 44 11034, February 26, 1979). After conducting an informal review, FRA secured the services of an independent consulting firm to evaluate the proposal and estimate the costs that would result if it were adopted. The consultant reviewed and assessed the cost impact of all the proposed changes and prepared a detailed impact analysis of the proposed changes in the following sections:

Sec.
213.9 Classes of Track: Operating Speed.
213.237 Inspection of Rail.
213.57 Curves, Elevation and Speed Limitations.
213.109 Crossties.

The consultant concluded that the estimated total impact of all proposed changes would increase rail industry operating expenses by $21.18 million annually and require a $47 million one-time track rehabilitation expense.

Upon reviewing the consultant's analysis, FRA found that is disagreed with many of the assumptions and the overall methodology used in that analysis. Accordingly, FRA directed its staff to perform another cost analysis and assess the benefits that would result from adoption of the proposed changes.

FRA recognizes that much of the detailed information necessary to precisely evaluate the impact of this proposal is simply nonexistent or unavailable. FRA is unaware of any reliable surveys, samplings or data banks of the myriad of important variables in track conditions throughout the nation (such as the number of miles of track within each FRA class, the number of miles of rail by specific weight in each FRA class, the number of miles of track in curves that exceed 4 degrees, and the volume of traffic and types of vehicles operating over each track class and rail weight). To assemble this information would be a massive and expensive undertaking that would require the imposition of a considerable reporting burden on the railroad industry. Moreover, much of this information changes daily as track is reclassified to reflect its current condition. In these circumstances, any cost analysis must be based largely upon the experience, judgment and "best estimate" of the analyst.

Briefly, the FRA staff analysis indicates that only four of the amended sections would have a noticeable

economic impact on the rail industry. FRA anticipates a total one-time track rehabilitation cost of about $20.2 million and a total increase of $3.5 million in annual operating costs. The proposed change to § 213.109 (Crossties) is expected to generate the largest one-time cost ($12 million) while § 213.9 (Classes of Track: Operating Speed Limits) and § 213.57 (Curves, Elevation and Speed Limitations) would result in one-time expenditures of $3.1 and $5.1 million, respectively. In addition to the one-time costs, increased operating expenditures of $3.5 million would be incurred annually under § 213.237 (Inspection of Rail). FRA's evaluation of the benefits shows that the proposal would result in an estimated $19.9 million annual saving by reducing the number of rail accidents and eliminating regulatory burdens. Reducing the number of rail accidents would reduce the number of injuries and the amount of property damage, along with other associated costs.

Copies of the cost analysis prepared by the independent consultant and of the cost benefit analysis prepared by FRA have been placed in the Public Docket for this proceeding (FRA Docket No. RST–3). Interested persons may examine these documents during regular business hours in Room 4406 of the Trans Point Building.

D. Environmental Impact

On March 16, 1979, the FRA published (44 FR 16062) revised procedures for insuring full consideration of the environmental impacts of FRA actions as required by the National Environmental Policy Act ("NEPA", 42 U.S.C. 4321 *et seq.*), the Department of Transportation Act ("DOT Act", 49 U.S.C. 1651 *et seq.*), other environmental statutes, executives orders, and DOT Order 5610.113.

These FRA procedures require that an "environmental assessment" be performed prior to all major FRA actions. The procedures contain a provison that enumerates seven criteria which, if met, demonstrate that a particular action is not a "major" action for environmental purposes. These criteria involve diverse factors, including environmental controversiality; the availability of adequate relocation housing, the possible inconsistency of the action with Federal, State, or local law; the possible adverse impact on natural, cultural, recreational, or scenic environments; the use of properties covered by section 4(f) of the DOT Act; and the possible increase in traffic congestion. The proposed revision of track requirements meets the seven criteria that establish an action as a non-major action.

For the reasons above, the FRA has determined that the proposed revision of Part 213, Track Safety Standards, does not constitute a major FRA action requiring an environmental assessment.

Participation in This Proceeding; Written Comments and Hearing

Interested persons are invited to participate in this proceeding by submitting written data, views, or comments. Communications should identify the regulatory docket number, and the number, and must be submitted in triplicate to the Docket Clerk, Office of the Chief Counsel, Federal Railroad Administration, 2100 Second Street, SW., Washington, D.C. 20590. Persons desiring receipt of their communications to be acknowledged should attach a stamped pre-addressed postcard to the first page of each communication. Communications received before November 30, 1979, will be considered before final action is taken on the proposed rules. All comments received will be available for examination by interested persons at any time during regular working hours in Room 4406, Trans Point Building, 2100 Second Street, SW., Washington, D.C. 20590.

In addition, the FRA will conduct a public hearing on November 14 and 15, 1979, in Washington, D.C. at 10:00 a.m. The hearing will be informal, and not a judicial or evidentiary hearing. There will be no cross examination of persons making statements. A staff member of FRA will make an opening statement outlining the matter set for the hearing.

Interested persons may present oral or written statements at the hearing. All statements will be made a part of the record of the hearing and will be a matter of public record. Any person who wishes to make an oral statement at the hearing should notify the Docket Clerk, Office of Chief Counsel, Federal Railroad Administration, 400 7th Street, SW., Washington, D.C. 20590 (Phone 202–426–8836), before November 7, 1979, stating the amount of time required for the initial statement.

The proposals contained in this notice may be changed in light of the oral statements made at the public hearing, or the written comments submitted in response to this notice.

This notice is issued under the authority of Section 202 and 208 of the Federal Railroad Safety Act of 1970, as amended, 45 U.S.C. 431 and 437); Regulations of the Office of the Secretary of transportation (49 CFR 1.49(n)). Issued in Washington, D.C., on August 23, 1979.

John M. Sullivan,

Administrator.

PROPOSED CHANGES AND ADDITIONS
TO
FRA TRACK SAFETY STANDARDS
49 CFR - Part 213

SUBPART A - GENERAL

Present	Proposed
§ 213.1 Scope of Part.	§ 213.1 Scope of Part.
	No Change.
§ 213.3 Application.	§ 213.3 Application
(a) Except as provided in paragraphs (b) and (c) of this section, this part applies to all standard gage track in the general railroad system of transportation.	(a) Except as provided in paragraph (b) of this section, this part applies to all standard gage track over which a common carrier by railroad operates.
(b) This part does not apply to track -	(b) This part does not apply to track that is-
(1) Located inside an installation which is not part of the general railroad system of transportation; or;	(1) Used exclusively for rapid transit service by an entity other than a common carrier by railroad; or
(2) Used exclusively for rapid transit, commuter, or other short haul passenger service in a metropolitan or suburban area.	(2) Excepted under paragraph (c) and (d) of this section.
(c) Until October 16, 1972, Subparts A, B, D (except §213.109), E, and F of this part do not apply to track constructed or under construction before October 15, 1971. Until October 16, 1973, Subpart C and § 213.109 of Subpart D do not apply to track constructed or under construction before October 15, 1971.	(c) A segment of track is eligible to be excepted from the minimum requirements of this part for Class 1 track if it is
	(1) Only operated over at speeds that do not exceed 10 miles per hour;
	(2) Not used to transport passenger trains or freight cars required to be placarded by Hazardous Materials Regulations (49 CFR §172.504);
	(3) Located more than 100 feet from other active tracks, public streets and highways, occupied structures, and other facilities and installations where persons could be placed in danger by a derailment;
	(4) Not more than 10 feet higher than adjacent terrain within 50 feet of the track centerline throughout its entire length and for a distance of 200 feet beyond each end.
	(d) A railroad shall designate each segment of track to be excepted from the minimum requirements of this part for Class 1 track by:
	(1) Preparing and maintaining a record of the designation at the appropriate railroad division office that includes:
	(i) A description of the track segment;
	(ii) A statement that the track segment is eligible to be excepted under paragraph (c) (1) of this section;
	(iii) The name, title and signature of the railroad official making the designation; and

Present

Proposed

(iv) The date of the designation; and

(2) Filing a copy of the designation with the:

(i) Associate Administrator for Safety (RRS-25), FRA, Washington, D. C. 20590; and

(ii) FRA Regional Director of Railroad Safety for the region in which the track segment is located.

(3) Whenever track that has been designated by a railroad to be excepted from the minimum requirements for Class 1 track ceases to meet the conditions set forth in paragraph (c) of this section, the track shall become subject to the requirements of this part. Within 10 calendar days after this occurs, the railroad shall so notify the Associate Administrator for Safety and the appropriate FRA Regional Safety Director. Each notification shall be in writing, identify the track that is no longer excepted, state the date this occurred, and be signed and dated by the railroad official taking the action. A copy of the record of designation for that track shall accompany each notification.

§ 213.5 Responsibility of track owners.

(a) Any owner of track to which this part applies who knows or has notice that the track does not comply with the requirements of this part, shall -

(1) Bring the track into compliance; or

(2) Halt operations over that track.

§ 213.5 Responsibility.

(a) A railroad that fails to comply with any requirement of this part with respect to any track over which it -

(1) Operates; or

(2) Authorizes any other railroad to operate;

is subject to a civil penalty as provided in Appendix B of this part. Each day of violation constitutes a separate offense.

(b) If an owner of track to which this part applies assigns responsibility for the track to another person (by lease or otherwise), any party to that assignment may petition the Federal Railroad Administrator to recognize the person to whom that responsibility is assigned for purposes of compliance with this part. Each petition must be in writing and include the following-

(1) The name and address of the track owner;

(2) The name and address of the person to whom responsibility is assigned (assignee);

(b) A railroad may petition the Federal Railroad Administrator for exemption from any or all requirements prescribed in this part. Each petition must be filed in accordance with Part 211 of this chapter.

Present	Proposed
(3) A statement of the exact relationship between the track owner and the assignee;	
(4) A precise identification of the track;	
(5) A statement as to the competence and ability of the assignee to carry out the duties of the track owner under this part; and	
(6) A statement signed by the assignee acknowledging the assignment to him of responsibility for purposes of compliance with this part.	
(c) If the Administrator is satisfied that the assignee is competent and able to carry out the duties and responsibilities of the track owner under this part, he may grant the petition subject to any conditions he deems necessary. If the Administrator grants a petition under this section, he shall so notify the owner and the assignee. After the Administrator grants a petition, he may hold the track owner or the assignee or both responsible for compliance with this part and subject to penalties under § 213.15.	(c) Delete.
§ 213.7 Designation of qualified persons to supervise certain renewals and inspect track.	§ 213.7 Designation of qualified persons.
(a) Each track owner to which this part applies shall designate qualified persons to supervise restorations and renewals of track under traffic conditions. Each person designated must have -	Each railroad shall designate qualified persons to inspect track for deviations from the requirements of this part, prescribe appropriate remedial action to correct or safely compensate for those deviations, and supervise restorations and renewals of track under traffic conditions. Each person designated to perform any of these tasks shall have at least -
(1) At least -	(a) 1 year experience in railroad track inspection or maintenance; or
(i) 1 year of supervisory experience in railroad track maintenance; or	(b) a combination of experience and training from a course in track inspection and maintenance or from a college level education program related to track inspection and maintenance.
(ii) A combination of supervisory experience in track maintenance and training from a course in track maintenance or from a college level educational program related to track maintenance;	
(2) Demonstrated to the owner that he-	
(i) Knows and understands that requirements of this part;	
(ii) Can detect deviations from those requirements; and	

Present	Proposed
§213.7 (Continued)	§ 213.7 (Continued)
(iii) Can prescribe appropriate remedial action to correct or safely compensate for those deviations; and	
(3) Written authorization from the track owner to prescribe remedial actions to correct or safely compensate for deviations from the requirements in this part.	
(b) Each track owner to which this part applies shall designate persons to inspect track for defects. Each person designated must have -	(b) Each person designated under this section shall demonstrate to the railroad that he or she -
(1) At least -	(1) Knows and understands the requirements of this part;
(i) 1 year of experience in railroad track inspection; or	
(ii) A combination of experience in track inspection and training from a course in track inspection or from a college level educational program related to track inspection;	
(2) Demonstrated to the owner that he -	(2) Can detect deviations from these requirements and record such deviations as required in 213.241; and
(i) Knows and understands the requirements of this part;	
(ii) Can detect deviations from those requirements; and	
(iii) Can prescribe appropriate remedial action to correct or safely compensate for those deviations; and	
(3) Written authorization from the track owner to prescribe remedial actions to correct or safely compensate for deviations from the requirements of this part, pending review by a qualified person designated under paragraph (d) of this section.	(3) Can prescribe appropriate remedial action to correct or safely compensate for those deviations.
(c) With respect to designations under paragraphs (a) and (b) of this section, each track owner must maintain written records of -	(c) Each railroad shall maintain written records of -
(1) Each designation in effect;	(1) Each of its designations in effect; and
(2) The basis for each designation; and	(2) The basis used to determine qualifications for each designation including, but not limited to, length of experience, type and length of training course and the manner in which the designee demonstrated knowledge of the requirements of this part.
(3) Track inspections made by each designated qualified person as required by § 213.241.	
These records must be kept available for inspection or copying by the Federal Railroad Administrator during regular business hours.	(d) Each railroad shall provide to the designated person, written authorization to prescribe remedial action to correct or safely compensate for deviations from the requirements in this part.

Present

§ 213.9 Classes of track: operating speed limits.

(a) Except as provided in paragraph (b) of this section §§ 213.57(b), 213.59(a), 213.105, 213.113(a) and (b), and 213.137(b) and (c), the following maximum allowable operating speeds apply:

Over track that meets all of the requirements prescribed in this part for-	The maximum allowable operating speed for freight train is-	The maximum allowable operating speed for passenger train is-
Class 1 track	10 m.p.h.	15 m.p.h.
Class 2 track	25 m.p.h.	30 m.p.h.
Class 3 track	40 m.p.h.	60 m.p.h.
Class 4 track	60 m.p.h.	80 m.p.h.
Class 5 track	80	90 m.p.h.
Class 6 track	110 m.p.h.	110 m.p.h.

(b) If a segment of track does not meet all of the requirements for its intended class, it is reclassified to the next lowest class of track for which it does meet all of the requirements of this part. However, if it does not at least meet the requirements for Class 1 track, no operations may be conducted over that segment except as provided in § 213.11.

§ 213.9 Classes of track: operating speed limits.

(c) Maximum operating speed may not exceed 110 m.p.h. without prior approval of the Federal Railroad Administrator. Petitions for approval must be filed in the manner and contain the information required by § 211.11 of this chapter. Each petition must provide sufficient information concerning the performance characteristics of the track, signaling, grade crossing protection, trespasser control where appropriate, and equipment involved and also concerning maintenance and inspection practices and procedures to be followed, to establish that the proposed speed can be sustained in safety.

§ 213.11 Restoration or renewal of track under traffic conditions.

If, during a period of restoration or renewal, track is under traffic conditions and does not meet all of the requirements prescribed in this part, the work and operations on the track must be under the continuous supervision of a person designated under § 213.7(a).

§ 213.13 Measuring track not under load

Proposed

§ 213.9 Classes of track: operating speed limits.

(a) Except as provided in paragraph (b) of this section and 213.57(b), 213.113(a) and 213.137(b) and (c), maximum allowable operating speeds may not exceed those in the following table:

Over track that meets all of the requirements prescribed in this part for -	The maximum allowable operating speed for vehicles operating over rail of: less than 112 lb/yd	112 lb/yd to 131 lb/yd	more than 131 lb/yd
Class 1	10	10	15
Class 2	25	30	30
Class 3	30	40	50
Class 4	50	60	80
Class 5	70	80	110
Class 6	90	110	125

(b) No change

§ 213.9 Classes of track:operating speed limits.

(c) Maximum operating speed may not exceed 125 m.p.h. without prior approval of the Federal Railroad Administrator. Petitions for approval must be filed in the manner and contain the information required by Part 211 of this chapter. Each petition must provide sufficient information concerning the performance characteristics of the track, signaling, grade crossing protection, trespasser control where appropriate, and equipment involved and also concerning maintenance and inspection practices and procedures to be followed, to establish that the proposed speed can be sustained in safety.

§ 213.11 Restoration or renewal of track under traffic conditions

If, during a period of restoration or renewal, track is under traffic conditions and does not meet all of the requirements prescribed in this part, the work and operations on the track must be under the continuous visual supervision of a person designated under § 213.7.

§ 213.13 Measuring track not under load

No change.

Present	Proposed
§ 213.15 Civil penalty. (a) Any owner of track to which this part applies, or any person held by the Federal Railroad Administrator to be responsible under § 213.5(c), who violates any requirement prescribed in this part is subject to a civil penalty of at least $250 but not more than $2,500. (b) For the purpose of this section, each day a violation persists shall be treated as a separate offense.	§ 213.15 Civil penalty. Delete entire section.
§ 213.17 Exemptions. (a) Any owner of track to which this part applies may petition the Federal Railroad Administrator for exemption from any or all requirements prescribed in this part. (b) Each petition for exemption under this section must be filed in the manner and contain the information required by § 211.11 of this chapter. (c) If the Administrator finds that an exemption is in the public interest and is consistent with railroad safety, he may grant the exemption subject to any conditions he deems necessary. Notice of each exemption granted is published in the Federal Register together with a statement of the reasons therefor.	§ 213.17 Exemptions. Delete entire section.

SUBPART B -ROADBED

Present	Proposed
§ 213.31 Scope.	§ 213.31 Scope. No change
§ 213.33 Drainage.	§ 213.33 Drainage. No change.
§ 213.37 Vegetation.	§ 213.37 Vegetation. No Change.

SUBPART C TRACK GEOMETRY

Present	Proposed
§ 213.51 Scope.	§ 213.51 Scope. No change.
§ 213.53 Gage.	§ 213.53 Gage. No change.

Present

§ 213.55 Alinement.

Alinement may not deviate from uniformity more than amount prescribed in the following table:

Class of track	Tangent track The deviation of the mid-offset from 62-foot line[1] may not be more than-	Curved track The deviation of the mid-ordinate from 62-foot chord[2] may not be more than-
1	5"	5"
2	3"	3"
3	1 3/4"	1 3/4"
4	1 1/2"	1 1/2"
5	3/4"	5/8"
6	1/2"	3/8"

[1]The ends of the line must be at points on the gage side of the line rail, five-eights of an inch below the top of the railhead. Either rail may be used as the line rail, however, the same rail must be used for the full length of that tangential segment of track.

[2]The ends of the chord must be at points on the gage side of the outer rail, five-eights of an inch below the top of the railhead.

§ 213.57 Curves; elevations and speed limitations.

(a) Except as provided in § 213.63, the outside rail of a curve may not be lower than the inside rail or have more than 6 inches of elevation.

(b) The maximum allowable operating speed for each curve is determined by the following formula:

$$V\ max = \sqrt{\frac{Ea + 3}{0.0007D}}$$

where

V max = Maximum allowable operating speed (miles per hour).

E a = Actual elevation of the outside rail (inches)

D = Degree of curvature (degrees).

Proposed

§ 213.55 Alinement.

The change of alinement between any two adjacent points 31 feet apart may not exceed the amounts prescribed in the following table:

Class	Tangent track Change between any adjacent 31-foot stations measured at the mid-offset from a 62-foot line[1] may not be more than-	Curved track Change between any adjacent 31-foot stations measured at the mid-offset from a 62-foot line[2] may not be more than-
1	6"	6"
2	3"	3"
3	1-3/4"	1-3/4"
4	1-1/4"	1-1/4"
5	3/4"	5/8"
6	1/2"	3/8"

[1]The ends of the line shall be at points on the gage side of the line rail, five-eighths of an inch below the top of the railhead. Either rail may be used as the line rail, however, the same rail must be used for the full length of that tangential segment of track.

[2]The ends of the chord must be at points on the gage side of the outer rail, five-eighths of an inch below the top of the railhead.

§213.57 Curves; elevations and speed limitations.

(a) A curve may not have an actual elevation in excess of 6-1/2 inches.

(b)(1) Railroad equipment having a center of gravity in excess of 97 inches or trucks with more than two axles shall not exceed, on each curve, the maximum allowable speed, as determined by the following formula:

$$V\ max = \sqrt{\frac{Ea + 1.5}{0.0007D}}$$

(2) For all other railroad equipment the maximum allowable speed for each curve shall be determined using the following formula:

$$V\ max = \sqrt{\frac{Ea + 3}{0.0007D}}$$

(3)V max = Maximum allowable operating speed (miles per hour)

Ea = Actual elevation of the outside rail (inches)

D = Degree of curvature based on field measurements (degrees)

Present	Proposed
§ 213.59 Elevation of curved track; runoff.	§ 213.59 Elevation of curved track; runoff.
(a) If a curve is elevated, the full elevation must be provided throughout the curve, unless physical conditions do not permit. If the elevation runoff occurs in a curve, the actual minimum elevation must be used in computing the maximum allowable operating speed for that speed for that curve under § 213.57(b).	Delete entire section.
(b) Elevation runoff must be at a uniform rate, within the limits of track surface deviation prescribed in § 213.63, and it must extend at least the full length of the spirals. If physical conditions do not permit a spiral long enough to accommodate the minimum length of runoff, part of the runoff may be on tangent track.	
§ 213.61 Curve data for Classes 4 through 6 track.	§ 213.61 Curve data for Classes 4 through 6 track.
(a) Each owner of track to which this part applies shall maintain a record of each curve in its classes 4 through 6 track. The record must contain the following information:	Delete entire section.
(1) Location; (2) Degree of curvature; (3) Designated elevation (4) Designated length of elevation runoff; and (5) Maximum allowable operating speed.	
§ 213.63 Track Surface	§ 213.63 Track Surface
Each owner of track to which this part applies shall maintain the surface of its track within the limits prescribed in the following table:	Track surface shall be maintained within the limits prescribed in the following table:

Present

• § 213.63 (Continued)

Track surface	Class of track					
	1	2	3	4	5	6
The runoff in any 31 feet of rail at the end of a raise may not be more than...	3 1/2"	3"	2"	1 1/2"	1"	1/2"
The deviation from uniform profile on either rail at the midordinate of a 62-foot chord may not be more than.....	3"	2 3/4"	2 1/4"	2"	1 1/4"	1/2"
Deviation from designated elevation on spirals may not be more than...	1 3/4"	1 1/2"	1 1/4"	1"	3/4"	1/2"
Variations in cross level on spirals in any 31 feet may not be more than.....	2"	1 3/4"	1 1/4"	1"	3/4"	1/2"
Deviation from zero cross level at any point on tangent or from designated elevation on curves between spirals may not be more than..	3"	2"	1 3/4"	1 1/4"	1"	1/2"
The difference in cross level between any two points less than 62 feet apart on tangents and curves between spirals may not be more than...	3"	2"	1 3/4"	1 1/4"	1"	5/8"

Proposed

§ 213.63 (Continued)

	Class of Track					
	1	2	3	4	5	6
The deviation from uniform profile on either rail at the midordinate of 62' cord may not be more than	3-1/2"	2-3/4"	2-1/4"	1-5/8"	1-1/4"	5/8"
Deviation from zero cross level at any point on tangent or the difference in cross level between any two points 62 feet or less apart on tangents and curves may not be more than	3"	2"	1-3/4"	1-1/4"	1"	5/8"
Variations in cross level on spirals in any 31 feet may not be more than	2"	1-3/4"	1-1/4"	1"	3/4"	1/2"

SUBPART D - TRACK STRUCTURE

Present	Proposed
§ 213.101 Scope.	§ 213.101 Scope.
	No change.
§ 213.103 Ballast; general.	§ 213.103 Ballast; general.
	No change.
§ 213.105 Ballast; disturbed track.	§ 213.105 Ballast; disturbed track.
If track is disturbed, a person designated under § 213.7 shall examine the track to determine whether or not the ballast is sufficiently compacted to perform the functions described in § 213.103. If the person making the examination considers it to be necessary in the interest of safety, operating speed over the disturbed segment of track must be reduced to a speed that he considers safe.	Delete entire section.
§ 213.109 Crossties.	§ 213.109 Crossties.
(a) Crossties may be made of any material to which rails can be securely fastened. The material must be capable of holding the rails to gage within the limits prescribed in § 213.53(b) and distributing the load from the rails to the ballast section.	(a) Crossties shall be made of material to which rails can be securely fastened. The material shall be capable of holding the rails to gage within the limits prescribed in § 213.53(b) and distributing the load from the rails to the ballast section.

Present

§ 213.109 (Continued)

(b) A timber crosstie is considered to be defective when it is:

(1) Broken through

(2) Split or otherwise impaired to the extent it will not hold spikes or will allow the ballast to work through.

(3) So deteriorated that the plate or base of rail can move laterally more than one-half inch relative to the crosstie.

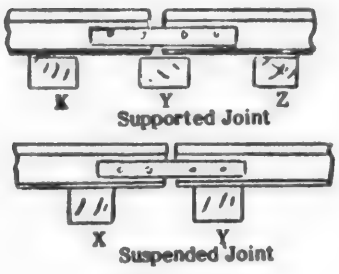
(4) Cut by the tie plate through more than 40 percent of its thickness; or

(5) Not spiked as required by Section 213.127.

(c) If timber crossties are used, each 39 feet of track must be supported by nondefective ties as set forth in the following table:

Class of track	Minimum number of nondefective ties Per 39 ft. of track	Maximum distance between non-defective ties (center to center)
1.....	5	100"
2,3.....	8	70"
4,5.....	12	48"
6.....	14	48"

(d) If timber ties are used, the minimum number of nondefective ties under a rail joint and their relative positions under the joint are described in the following chart. The letters in the chart correspond to letters underneath the ties for each type of joint depicted.



Proposed

§ 213.109 (Continued)

(b) A crosstie is defective when it is:

(1) Broken through

(2) Split or otherwise impaired to the extent it will not securely hold spikes or fasteners.

(3) So deteriorated or impaired that the tie plate or rail base can move laterally more than one-half inch relative to the crosstie

(4) Cut by the tie plate or rail base or worn by abrasion through more than 40 percent of its thickness; or

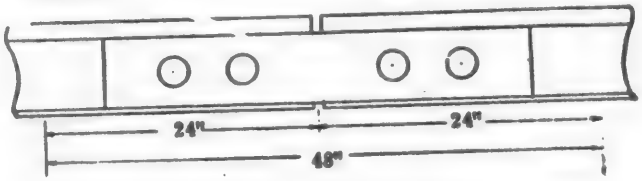
(5) Not fastened as required by Section 213.127.

(c) Maximum distance between nondefective ties center to center may not exceed those in the following table:

Class of Track	Tangent track and curved track less than 4^{O}	Curved track 4^{O} and greater
1	100"	80"
2,3	70"	60"
4,5 & 6	48"	48"

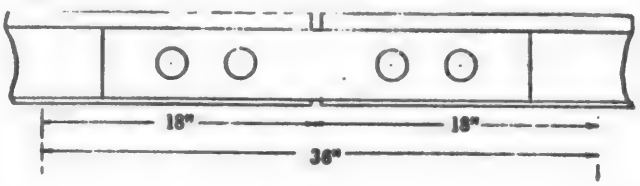
(d) The minimum number of nondefective ties and their relative position under a rail joint are described in the following table:

Class 1



Each rail joint in Class 1 track shall be supported by at least one nondefective crosstie whose centerline is within the 48" shown above.

Classes 2 and 3



Present

§ 213.109 (Continued)

Class of Track	Minimum number of nondefective ties under a joint	Required position of nondefective ties	
		Supported Joint	Suspended Joint
1	One	X, Y, or Z	X or Y
2,3	One	Y	X or Y
4,5,6	Two	X and Y, or Y and Z	X and Y

(e) Except in an emergency or for a temporary installation of not more than six months duration, crossties may not be interlaced to take the place of switch ties.

§ 213.113 Defective rails.

(a) When an owner of track to which this part applies learns, through inspection or otherwise, that a rail in that track contains any of the defects listed in the following table, a person designated under § 213.7 shall determine whether or not the track may continue in use. If he determines that the track may continue in use, operation over the defective rail is not permitted until -

(1) The rail is replaced; or

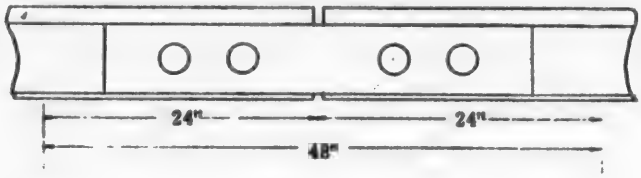
(2) The remedial action prescribed in the table is initiated:

Proposed

§ 213.109 (Continued)

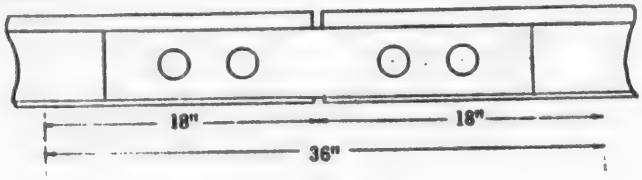
Each rail joint in Classes 2 & 3 track shall be supported by at least one nondefective crosstie whose centerline is within the 36" shown above.

Classes 4 and 5



Each rail joint in Classes 4 & 5 track shall be supported by at least two nondefective crossties. The centerline of both nondefective crossties shall be within the 48" shown above.

Class 6



Each rail joint in Class 6 track shall be supported by at least two nondefective crossties. The centerline of both nondefective crossties shall be within the 36" shown above.

(e) Delete.

§ 213.113 Defective Rails

(a) When rail in track contains a defect listed in the following table, the rail shall be replaced or the remedial action prescribed in that table be taken:

Present

213.113 (Continued)

REMEDIAL ACTION

Defect	Length of defect (inch)		Percent of railhead cross-sectional area weakened by defect		If defective rail is not replaced, take the remedial action prescribed in note
	More than	But not more than	Less than	But not less than	
Transverse fissure			20		B.
			100	20	B.
				100	A.
Compound fissure			20		H
			100	20	H
				100	A.
Detail fracture			20		C.
Engine burn fracture			100	20	D.
Defective weld				100	A, or E and H.
Horizontal split head	0	2			H and F
	2	4			I and G
	4				E
Vertical split head	(Break out in railhead)				A
Split web	0	½			H and F
Piped rail	½	3			I and G
	3				E
Head web separation	(Break out in railhead)				A
	0	½			H and F
	½	1½			I and G
Bolt hole crack	1½				E
	(Breakout in railhead)				A
Broken base	0	6			E and I
	6				(Replace rail)
Ordinary break					A or E
Damaged rail					C

Proposed

213.113 (Continued)

REMEDIAL ACTION

Defect	Length of defect (inch)		Percent of railhead cross-sectional area weakened by defect		If defective rail is not replaced, take the remedial action prescribed in note
	More than	But not more than	Less than	But not less than	
Transverse fissure			20		B.
			100	20	B.
				100	A.
Compound fissure			20		H
			100	20	H
				100	A.
Detail fracture			20		C.
Engine burn fracture			100	20	D.
Defective weld				100	A, or E and H.

Proposed

213.113 (Continued)

REMEDIAL ACTION

Defect	Length of defect (inch)		Percent of railhead cross-sectional area weakened by defect		If defective rail is not replaced, take the remedial action prescribed in note
	More than	But not more than	Less than	But not less than	
Horizontal split head	0	2			H and F.
Vertical split head. . .	2	4			J and G.
Split web.	4	6			B and G.
Piped rail	6				A
Head and Web Separation . . .	0	1-1/2			H and F.
Bolt Hole Crack	1-1/2	3			I and G.
	3				A
Broken Base	0	6			E and I.
	6				A
Ordinary break.					A or E.
Damaged rail.					C.

Present

§ 213.113 (a) (Continued)

Remedial Action

Note:

A - Assign person designated under § 213.7 to visually supervise each operation over defective rail.

B - Limit operating speed to 10 m.p.h. over defective rail.

C - Apply joint bars bolted only through the outermost holes to defect within 20 days after it is determined to continue the track in use. In the case of Classes 3 through 6 track, limit operating speed over defective rail to 30 m.p.h. until angle bars are applied; thereafter, limit speed to 50 m.p.h. or the maximum allowable speed under § 213.9 for the class of track concerned, whichever is lower.

D - Apply joint bars bolted only through the outermost holes to defect within 10 days after it is determined to continue the track in use. Limit operating speed over defective rail to 10 m.p.h. until angle bars are applied; thereafter, limit speed to 50 m.p.h. or the maximum allowable speed under § 213.9 for the class of track concerned, whichever is lower.

E - Apply joint bars to defect and bolt in accordance with § 213.121(d) and (e).

Proposed

§ 213.113 (a) (Continued)

Remedial Action

A - No Change

B - No Change

C - No Change

D - No Change

E - No change

Present	Proposed
§ 213.113 (a) (Continued)	§ 213.113 (a) (Continued)
F - Inspect rail ninety days after it is determined to continue the track in use.	F - No change
G - Inspect rail thirty days after it is determined to continue the track in use.	G - No change
H - Limit operating speed over defective rail to 50 m.p.h. or the maximum allowable speed under § 213.9 for the class of track concerned, whichever is lower.	H - No change
I - Limit operating speed over defective rail to 30 m.p.h. or the maximum allowable speed under § 213.9 for the class of track concerned, whichever is lower.	I - No change
§ 213.113	§ 213.113
(b) If a rail in Classes 3 through 6 track or Class 2 track on which passenger trains operate evidences any of the conditions listed in the following table, the remedial action prescribed in the table must be taken:	(b) Delete

Condition	Remedial Action	
	If a person designated under § 213.7 determines that condition requires rail be replaced	If a person designated under § 213.7 determines that condition does not require rail to be replaced
Shelly spots	Limit speed to 20 m.p.h. and schedule the rail for replacement.	Inspect the rail for internal defects at intervals of not more than every 12 months.
Head checks.		
Engine burn (but not fracture).		
Mill defect.		
Flaking.	. . . do . . .	Inspect the rail at intervals not more than every 6 months.
Slivered. . .		
Corrugated		
Corroded. . .		

§ 213.113(c) (1) - (11)	§ 213.113(c) (1) - (11) No Change.
(12) "Shelly spots" means a condition where a thin (usually three-eights inch in depth or less) shell-like piece of surface metal becomes separated from the parent metal in the railhead, generally at the gage corner. It may be evidenced by a black spot appearing on the railhead over the zone of separation or a piece of metal breaking out completely, leaving a shallow cavity in the railhead. In the case of a small shell there may be no surface evidence, the existence of the shell being apparent only after the rail is broken or sectioned.	(12) Delete.

Present	Proposed
§ 213.113(c) (Continued)	§ 213.113(c) (Continued)
(13) "Head checks" means hairline cracks which appear in the gage corner of the rail head, at any angle with the length of the rail. When not readily visible the presence of the checks may often be detected by the raspy feeling of their sharp edges.	(13) Delete.
(14) "Flaking" means small shallow flakes of surface metal generally not more than one-quarter inch in length or width break out of the gage corner of the railhead.	(14) Delete.
§ 213.115 Rail end mismatch.	§ 213.115 Rail end mismatch.
Any mismatch of rails at joints may not be more than that prescribed by the following table:	Any mismatch on the gage side of the rails ends may not be more than 1/4 inch on Class 1 track, 3/16 inch on Classes 2 and 3 track, and 1/8 inch on Classes 4, 5 and 6 track.

Class of track	Any mismatch of rails at joint may not be more than the following -	
	On the tread of the rail ends (inch)	On the gage side of the rails ends (inch)
1.....	1/4	1/4
2.....	1/4	3/16
3.....	3/16	3/16
4,5.....	1/8	1/8
6.....	1/8	1/8

§ 213.117 Rail End Batter.	§ 213.117 Rail End Batter.
(a) Rail end batter is the depth of depression at one-half inch from the rail end. It is measured by placing an 18-inch straightedge on the tread on the rail end, without bridging the joint, and measuring the distance between the bottom of the straightedge and the top of the rail at one-half inch from the rail end.	Delete entire section.
(b) Rail end batter may not be more than that prescribed by the following table:	

Class of track	Rail end batter may not be more than- (inch)
1.....	1/2
2.....	3/8
3.....	3/8
4.....	1/4
5.....	1/8
6.....	1/8

Present	Proposed
§ 213.119 Continuous welded rail.	§ 213.119 Continuous welded rail.
(a) When continuous welded rail is being installed, it must be installed at, or adjusted for, a rail temperature range that should not result in compressive or tensile forces that will produce lateral displacement of the track or pulling apart of rail ends or welds.	Delete entire section.
(b) After continuous welded rail has been installed it should not be disturbed at rail temperatures higher than its installation or adjusted installation temperature.	
§ 213.121 Rail joints.	§ 213.121 Rail Joints.
(a-c)	(a-c) No change.
(d) In the case of conventional jointed track, each rail must be bolted with at least two bolts at each joint in Classes 2 through 6 track, and with at least one bolt in Class 1 track.	(d) In the case of conventional jointed track, each rail end shall be bolted with at least two bolts at each joint in Classes 2 through 6 track, and with at least one bolt in Class 1 track.
(e) In the case of continuous welded rail track, each rail must be bolted with at least two bolts at each joint.	(e) In the case of continuous welded rail track, each rail end shall be bolted with at least two bolts at each joint.
(f)	(f) No change
(g) No rail or angle bar having a torch cut or burned bolt hole may be used in Classes 3 through 6 track.	(g) Torch cut or burned bolt holes in rails or joint bars may not be used in Class 2 through 6 track.
§ 213.123 Tie plates.	§ 213.123 Tie plates.
(a) In Classes 3 through 6 track where timber crossties are in use there must be tie plates under the running rails on at least eight of any 10 consecutive ties.	Delete entire section.
(b) Tie plates having shoulders must be placed so that no part of the shoulder is under the base of the rail.	
§ 213.125 Rail Anchoring.	§ 213.125 Rail Anchoring
Longitudinal rail movement must be effectively controlled. If rail anchors which bear on the sides of ties are used for this purpose, they must be on the same side of the tie on both rails.	Delete.

Present

§ 213.127 Track Spikes.

(a) When conventional track is used with timber ties and cut track spikes, the rails must be spiked to the ties with at least one line-holding spike on the gage side and one line-holding spike on the field side. The total number of track spikes per rail per tie, including plate-holding spikes, must be at least the number prescribed in the following table:

Class of track	Minimum number of track spikes per rail per tie, including plate-holding spikes: Tangent track and curved track with not more than 2° of curvature	Curved track with more than 2° but not more than 4° of curvature	Curved track with more than 4° but not more than 6° of curvature	Curved track with more than 6° of curvature
1	2	2	2	2
2	2	2	2	3
3	2	2	2	3
4	2	3	3	-
5	2	3	-	-
6	2	-	-	-

(b) A tie that does not meet the requirements of paragraph (a) of this section is considered to be defective for purposes of § 213.109(b).

§ 213.129 Track shims.

(a) If track does not meet the geometric standards in Subpart C of this part and working of ballast is not possible due to weather or other natural conditions, track shims may be installed to correct the deficiencies. If shims are used, they must be removed and the track resurfaced as soon as weather and other natural conditions permit.

(b) When shims are used they must be -

(1) At least the size of the tie plate;

Proposed

§ 213.127 Rail Fastenings

(a) When conventional track is used with timber ties and track spikes, the rails shall be spiked to the ties with at least one line holding spike on the gage side and one line-holding spike on the field side. Longitudinal rail movement shall be effectively controlled. The total number of track spikes per rail per tie, including plate-holding spikes, shall be at least the number prescribed in the following table:

Class of track	Minimum number of track spikes per rail per tie, including plate-holding spikes: Tangent track and curved track with not more than 2° of curvature	Curved track with more than 2° but not more than 4° of curvature	Curved track with more than 6° of curvature	Curved track with more than 6° of curvature
1	2	2	2	3
2	2	2	2	3
3	2	3	2	3
4	2	3	3	-
5	2	3	-	-
6	2	-	-	-

(b) When rail fastenings other than track spikes are used, they shall be:

(1) Securely attached to the tie
(2) So positioned as to effectively restrain lateral rail movement.
(3) Properly installed
(4) Positioned so vertical and longitudinal movement of the rail is effectively controlled
(5) Installed so that at least one fastener is on each side of the rail, except when used on the same tie in combination with track spikes as prescribed in paragraphs (a) of this section.

(c) A tie that does not meet the requirements of paragraph (a) or (b) of this section is defective for purposes of § 213.109(b).

§ 213.129 Track shims.

Delete entire section.

Present	Proposed
§ 213.129 Track shims.	§ 213.129 Track shims.
(2) Inserted directly on top of the tie, beneath the rail and tie plate; (3) Spiked directly to the tie with spikes which penetrate the tie at least 4 inches. (c) When a rail is shimmed more than 1-1/2 inches, it must be securely braced on at least every third tie for the full length of the shimming. (d) When a rail is shimmed more than 2 inches a combination of shims and 2-inch or 4-inch planks, as the case may be, must be used with the shims on top of the planks.	
§ 213.131 Planks used in shimming.	§ 213.131 Planks used in shimming.
(a) Planks used in shimming must be at least as wide as the tie plates, but in no case less than 5-1/2 inches wide. Whenever possible they must extend the full length of the tie. If a plank is shorter than the tie, it must be at least three feet long and its outer end must be flush with the end of the tie.	Delete entire section.
(b) When planks are used in shimming on uneven ties, or if the two rails being shimmed heave unevenly, additional shims may be placed between the ties and planks under the rails to compensate for the uneveness.	
(c) Planks must be nailed to the ties with at least four 8-inch wire spikes. Before spiking the rails or shim braces, planks must be bored with 5/8-inch holes.	
§ 213.133 Turnouts and track crossings generally.	§ 213.133 Turnouts and track crossings generally.
	No change.
§ 213.135 Switches.	§ 213.135 Switches.
(a)	(a) No change.
(b) Each switch point must fit its stock rail properly, with the switch stand in either of its closed positions to allow wheels to pass the switch point. Lateral and vertical movement of a stock rail n the switch plates or of a switch plate on a tie must not adversely affect the fit of the switch point to the stock rail.	(b) Each switch point shall **fit** its stock rail properly. Lateral, vertical and longitudinal rail movement shall be effectively controlled so the fit of the switch point to the stock rail is not adversely affected.
(c)-(h)	(c)-(h) No Change.
	(i) A switch point may not have an unprotected vertical or inclined surface 5/16 inch or more in width at depth of 3/4 inch below the top of the stock rail.

Present	Proposed
§ 213.137 Frogs	§ 213.137 Frogs.
(a) - (c)	(a) - (c) No Change.
	(d) The distance between the gage line and the face of the raised guard on self guarded frog may not exceed 4-3/8 inches.
§ 213.139 Spring rail frogs.	§ 213.139 Spring rail frogs.
	No change.
§ 213.141 Self-guarded frogs.	§ 213.141 Self-guarded frogs.
(a) The raised guard on a self-guarded frog may not be worn more than three-eights of an inch.	Delete entire section.
(b) If repairs are made to a self-guarded frog without removing it from service, the guarding face must be restored before rebuilding the point.	
§ 213.143 Frog guard rails and guard faces; gage.	§ 213.143 Frog guard rails and guard faces; gage.
	No change.

SUBPART E - TRACK APPLIANCES AND TRACK-RELATED DEVICES

Present	Proposed
§ 213.201 Scope.	§ 213.201 Scope.
This subpart prescribes minimum requirements for certain track appliances and track-related devices.	Delete.
§ 213.205 Derails.	§ 213.205 Derails.
(a) Each derail must be clearly visible. When in a locked position a derail must be free of any lost motion which would allow it to be operated without removing the lock.	Delete entire section.
(b) When the lever of a remotely controlled derail is operated and latched it must actuate the derail.	
§ 213.207 Switch heaters.	§ 213.207 Switch heaters.
The operation of a switch heater must not interfere with the proper operation of the switch or otherwise jeopardize the safety of railroad equipment.	Delete.

SUBPART F - INSPECTION

Present

§ 213.231 Scope.

§ 213.233 Track inspections.

§ 213.235 Switch and track crossing inspections.

(a) Except as provided in paragraph (b) of this section, each switch and track crossing must be inspected on foot at least monthly.

(b) In the case of track that is used less than once a month, each switch and track crossing must be inspected on foot before it is used.

§ 213.237 Inspection of rail.

(a) In addition to the track inspections required by § 213.233, at least once a year a continuous search for internal defects must be made of all jointed and welded rails in classes 4 through 6 track, and class 3 track over which passenger trains operate. However, in the case of a new rail, if before installation or within 6 months thereafter it is inductively or ultrasonically inspected over its entire length and all defects are removed, the next continuous search for internal defects need not be made until three years after that inspection.

Proposed

§ 213.231 Scope.

No change.

§ 213.233 Track inspection.

No change.

§ 213.235 Turnout and track crossing inspections.

(a) Except as provided in paragraph (b) of this section, each turnout and track crossing shall be inspected on foot at least monthly by a person designated under 213.7.

(b) In the case of track that is used less than once a month, each turnout and track crossing must be inspected on foot before it is used. This inspection must be made by a person designated under 213.7.

§ 213.237 Inspection of rail.

(a)(1) In addition to the track inspections required by § 213.233, a continuous search for internal rail defects shall be made of all rail in classes 3 through 6 track and all track over which passenger trains operate in class 2.

In the case of new "A" rails to be used in Classes 3 through 6 track or Class 2 over which passenger trains operate an inspection for internal defects shall be made before installation. If all defects are removed before installation, the next continuous search for internal defects need not be made until three years after installation.

(a)(2) Minimum Required Number of Rail Inspections Per Year

Rail Wt.	Rail Age More than	Rail Age Less than	Annual Million Gross Tons of Traffic During Preceeding Calendar Year (mgt) Less than 10 mgt	Between 10 and 20 mgt	Between more than 20 & 40 mgt	More than 40 mgt
less than 90 lb/yd	3	10	1	1	2	2
	10	20	1	2	2	3
	20	40	1	2	2	3
	40	—	1	2	3	4
90 lb/yd to 110 lb/yd	3	10	1/2	1	1	2
	10	20	1	1	2	2
	20	40	1	2	2	2
	40	—	1	2	2	3
More than 110 lb/yd	3	10	1/2	1	1	1
	10	20	1/2	1	1	2
	20	40	1	1	2	2
	40	—	1	1	2	2

(3) The time interval between rail inspections shall be as follows:

(i) Where inspection is required every other year (1/2 peryear) the interval between inspections may not be more than 29 months.

Present	Proposed
§ 213.237 (Continued)	§ 213.237 (Continued)
	(ii) Where one inspection per year is required, the interval between inspections may not be more than 14 months or less than 6 months.
	(iii) Where two inspections per year are required, there shall be at least a 4 month interval between inspections.
	(iv) Where three inspections per year are required, there shall be at least a 3 month interval between inspections.
	(v) Where four inspections per year are required, there shall be at least a 2 month interval between inspections.
(b) Inspection equipment must be capable of detecting defects between joint bars and in the area enclosed by joint bars.	(b) Inspection equipment shall be capable of detecting defects between joint bars and in the area enclosed by joint bars.
(c) Each defective rail must be marked with a highly visible marking on both sides of the web and base.	(c) Each defective rail shall be marked with a highly visible marking on both sides of the web and base.
§ 213.239 Special Inspections.	§ 213.239 Special Inspections.
	No Change
§ 213.241 Inspection records	§ 213.241 Inspection records.
(a) Each owner of track to which this part applies shall keep a record of each inspection required to be performed on that track under this subpart.	(a) No change
(b) Each record of an inspection under §§ 213.233 and 213.235 shall be prepared on the day the inspection is made and signed by the person making the inspection. Records must specify the track inspected, date of inspection, location and nature of any deviation from the requirements of this part, and the remedial action taken by the person making the inspection. The owner shall retain each record at its division headquarters for at least one year after the inspection covered by the record.	(b) Each record of an inspection under §§ 213.233, and 213.235 shall be prepared on the day the inspection is made and signed by the person making the inspection. The railroad shall retain each record at its Division Headquarters for at least one year after the inspection covered by the record. Records shall specify: (1) Track inspected and limits of inspection. (2) Class of track. (3) Date of inspection. (4) Location and a description of any deviation of the requirements of this part. The description must include measurement where necessary and indicate the defect as being a deviation from this part. (5) Remedial action prescribed by the designated person that made the inspection and indicate that: (i) the track was promptly brought into compliance by repair or reducing the maximum authorized speed; and (ii) operations were halted until the track was brought into compliance.
(c) Rail inspection records must specify the date the inspection, the location and nature of any internal rail defects found and the remedial action taken and the date thereof. The owner shall retain a rail inspection record for at least two years after the inspection and for one year after the remedial action is taken.	(c) No change.
(d)	(d) No change.

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